ORIGINAL VERSION

SERVICE MANUAL

COLOR TELEVISION

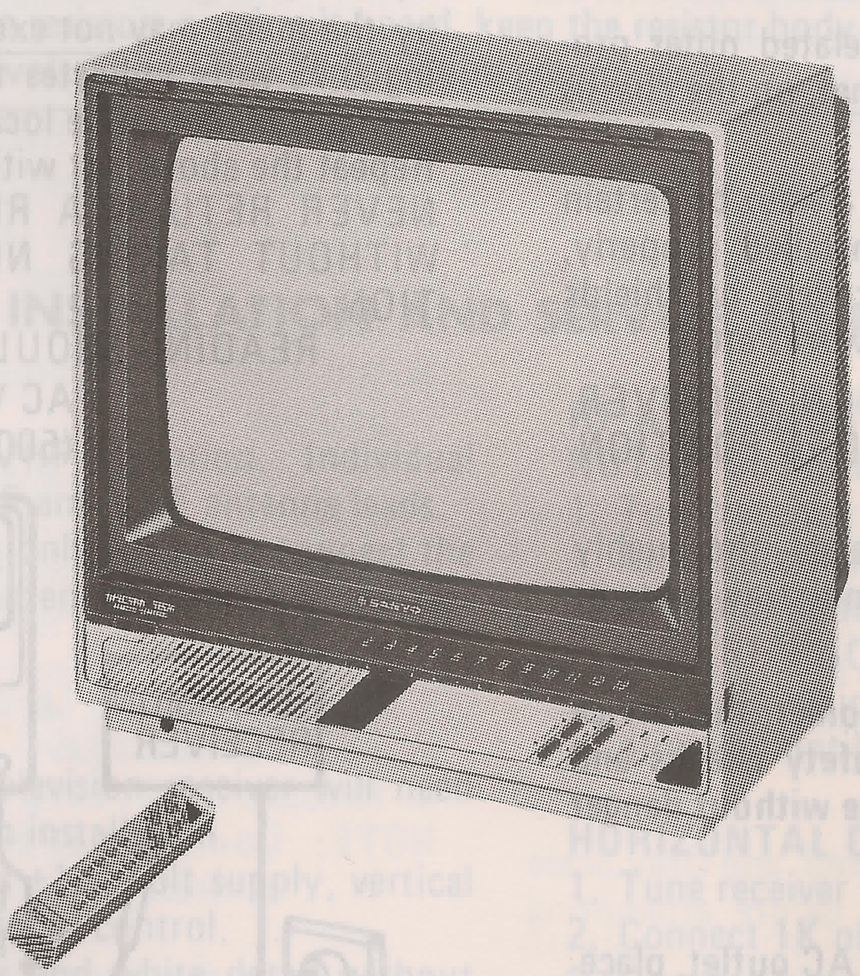
Chassis A2K Series

Chassis No. A2K-43500

Chassis number is printed in the rating plate affixed to the back cover.

SANYO

31C435



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SPECIFICATIONS

Power input AC120V, 60Hz
Power rating 56W
Antenna input impedance ..... 300 Ω UHF/VHF
75Ω VHF/MID
Receiving channel ..... 2-13 (VHF),
14-83 (UHF)
Cable TV receiving channel ..... 14-22 (Mid Band)
Sound output 1.0W
Intermediate frequency
Picture IF carrier 45.75MHz
Sound IF carrier 41.25MHz
Color sub carrier 42.17MHz

Picture tube ..... 370KSB22 (VY)
Semiconductors
Integrated circuits 7
Transistors 55
Cabinet dimensions
Width 366
Depth 361
Height 384

Service Head Office: Sanyo Electric Inc.
1200W. Artesia Blvd., P.O. Box 5177 Compton, Calif, 90220

WM-10216 Oct.,/'83/MA 5000 Printed in Japan

SAFETY PRECATIONS

WARNING: The chassis of this receiver is connected to one side of the AC line during operation, service should not be attempted by anyone not familiar with the precautions necessary when working on this type of equipment. The following precautions should be observed;
An isolation transformer should be connected in the power line between the receiver and the AC line before any service is performed on the receiver. When the receiver must be operated directly from the AC line, the power plug should always be connected in the proper direction to connect the chassis to the ground side of the AC line. Check with an AC voltmeter to see if a potential exists between the chassis and a known earth ground. A zero reading should be obtained. If a reading is obtained, reverse the power plug and recheck for zero meter reading.

1. Comply with all caution and safety-related notes provided on cabinet back, inside the cabinet, on the chassis or the picture tube.
2. When replacing a chassis in the cabinet, always be certain that all the protective devices are installed properly, such as; control knobs, adjustment covers or shields barriers, isolation resistor-capacitor networks etc.

   DO NOT OPERATE THIS TELEVISION RECEIVER WITHOUT THE PROTECTIVE SHIELD IN POSITION AND PROPERLY SECURED.
3. Before replacing the back cover of the set, thoroughly inspect inside the cabinet to see that no stray parts or tools have been left inside.

Before returning any television to the customer, the service technician must perform the following safety checks and be sure that it is completely safe to operate without danger of electrical shock.

ANTENNA COLD CHECK

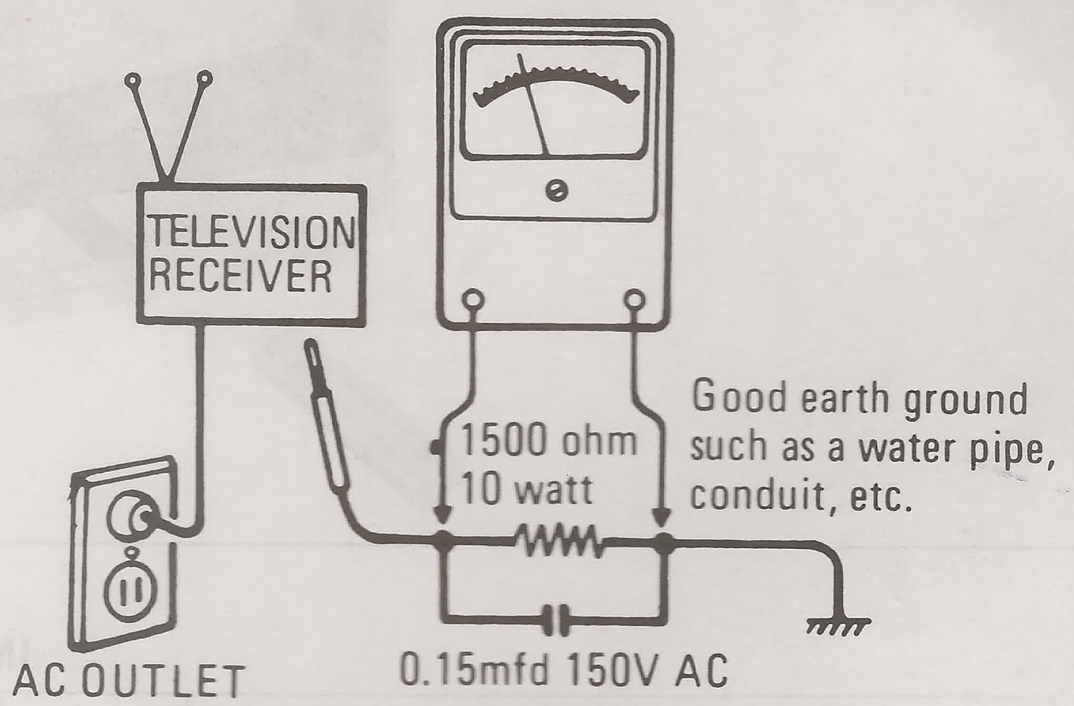
With the AC plug removed from the 120V AC outlet, place a jumper across the two blades. Using an ohmmeter, connect one lead to the jumpered AC plug and touch the other lead to each exposed antenna terminal (UHF and VHF antenna terminals). The resistance must measure between 1M ohm and 5.2M ohm.

Any resistance value below or above this range indicates an abnormality which requires corrective action. Repeat the test with the AC switch in the OFF position.

LEAKAGE CURRENT CHECK

Plug the AC line cord directly into a 120V AC outlet (do not use an isolation transformer for this check). Use an AC voltmeter, having 5000 ohms per volt or more sensitivity. Connect a 1500 ohm 10 watt resistor, paralleled by a 0.15 mfd 150V AC capacitor between a known good earth ground (waterpipe, conduit, etc.) and all exposed metal parts of the cabinet (antennas, handle bracket, metal cabinet, screwheads, metal overlays, control shafts, etc.). Measure the AC voltage across the 1500 ohm resistor. The test must be conducted with the AC switch on and then repeated with the AC switch off. The AC voltage indicated by the meter may not exceed 0.75 volts. A reading exceeding 0.75 volts indicates that a dangerous potential exists, the fault must first be located and corrected.
Repeat the above test with the receiver power plug reversed.
NEVER RETURN A RECEIVER TO THE CUSTOMER WITHOUT TAKING NECESSARY CORRECTIVE ACTION.

READING SHOULD NOT EXCEED 0.75V.
AC VOLTMETER
(5000 ohm per volt or more sensitivity)



Test all exposed metal.

Voltmeter Hook-up for Leakage Current Check

X-RADIATION PRECAUTIONS

The primary source of X-RADIATION in a solid-state television receiver is the picture tube. The picture tube is specially constructed to limit X-RADIATION emissions. For continued X-RADIATION protection, the replacement tube must be the same type as the original including suffix letter. Excessive high voltage may produce potentially hazards X-RADIATION. To avoid such hazards, the high voltage must be maintained within specified limits. Refer to the X-RADIATION WARNING NOTE on the CHASSIS SCHEMATIC in this service manual for specific high voltage limits. If high voltage exceeds specified limits, check these components specified on the chassis schematic diagram and take necessary corrective action. Carefully follow the instructions for +127 volt power supply check and high voltage check to maintain the high voltage within specified limits.

PRODUCT SAFETY NOTICE

Product safety should be considered when a component replacement is made in any area of a receiver. Components indicated by a star (★) in the parts list and the schematic diagram designate components in which safety can be of special significance. It is particularly recommended that only parts designated on the parts list in this manual be used for component replacement designated by a star. No deviations from resistance, wattage or voltage ratings may be made for replacement items designated by a star.

83-10-A2GCS

SPECIAL HANDLING NOTES FOR MOS DEVICES

In the Tuning Section of this TV chassis, several MOS (Metal Oxide Semiconductor) devices are employed. These devices are likely to be damaged by static discharge due to improper handling or servicing. Therefore, for servicing or testing of Tuning Section (IC601 and IC701), special precautions are necessary. To avoid possible damage, the following procedures should be followed.

1. Do not remove or install MOS devices into the IC socket while TV set is ON.
2. When connecting test-equipment to the circuit, always connect the negative lead (ground lead) to the chassis ground first.
3. Soldering tip should be grounded along with the chassis of the TV set under service.
4. Terminals of MOS IC's should be shorted all together by pushing through a sheet of aluminium foil, whenever they are removed from the circuit board.

SERVICE NOTES

1. When replacing parts on circuit boards, clamp the lead wires to terminals before soldering.
2. When replacing high wattage resistors on circuit board, keep the resistor body 10 mm (1/2") from circuit board.
3. Keep wires away from high voltage and high temperature components.

INSTALLATION AND SERVICE ADJUSTMENT

ANTENNA CONNECTIONS

This receiver is designed for UHF/VHF reception. Individual 300 ohm inputs are provided for UHF and VHF antenna leads. When using a UHF or VHF antenna only, or both, connect the transmission line (s) to the proper antenna terminals at the rear of the receiver.

GENERAL ADJUSTMENTS

In the majority of cases, a color television receiver will need only slight touch-up adjustment upon installation.
Check the basic adjustments such as +127 volt supply, vertical size, AGC, horizontal oscillator and focus control.
Observe the picture for good black and white detail without objectionable color shading, if color shading is evident, demagnetize the receiver by slowly moving a degaussing coil in a circular motion around the faceplate of the picture tube and sides of cabinet, then slowly remove the coil to a distance of six feet from the receiver before disconnecting it from the AC source.

CIRCUIT PROTECTION

A fuse (4A) is included in the AC line and fuse (0.63A) is included in the +B line. These fuses are located on the main signal board and MUST be replaced by the proper fuse (See Parts List).

★★ +127V POWER SUPPLY CHECK

1. Tune receiver to an active channel and synchronize picture. Set Auto-Color/Chroma/Trimatic button to OFF (OUT) position. Adjust Brightness and Contrast controls to maximum.
2. Connect a DC meter (+) lead to "TP1" on main signal board and (–) lead to chassis ground (TE1).
3. Voltage must measure between +126V to +128V.

RF AGC ADJUSTMENT

NOTE; Do not readjust these controls with weak reception.

1. Tune receiver to the strongest VHF station in the area. Turn Auto-Color/Chroma/Trimatic button to OFF (OUT) position. Set Color control for minimum.
2. Turn RF AGC Control (VR101) on main signal board in the direction which causes snow to appear, then in the opposite direction until the snow just disappears.

HORIZONTAL OSCILLATOR ADJUSTMENT

1. Tune receiver to an active channel and synchronize picture.
2. Connect 1K ohm resistor between "TP40" and "TP41".
3. Connect jumper lead between terminals "TP25" and "TE25" (ground).
4. Adjust Horiz-HOLD. adjustment (VR301) on main signal board to momentarily synchronize picture.
5. Remove resistor and jumper lead.

FOCUS ADJUSTMENT

Adjust focus control for well defined scanning lines.

VERTICAL SIZE ADJUSTMENT

Tune receiver to an active channel and synchronize picture. Adjust Vertical Size control (VR302) for full scan.

SOUND INITIALIZ ADJUSTMENT

1. Tune receiver to an active channel.
2. Press Volume Down Key approximately 10 seconds.
3. Press Volume Up Key five times.
4. Turn VR601 (Sound Control) for maximum sound, then turn opposite direction until sound disappears.
5. Check volume keys operating properly.

SOUND LEVEL ADJUSTMENT

1. Tune receiver to an active channel.
2. Press Volume Down Key approximately 10 seconds.
3. Press Volume Up Key sixteen times.
4. Adjust VR151 (Sound Level Adj.) for optimum sound.

GRAY SCALE AND TRACKING ADJUSTMENT

1. Set red (VR704) and blue (VR701), drive controls to mid position. Set blue (VR702), green (VR703) and red (VR705) bias controls to minimum (fully counterclockwise).
2. Set screen control on main signal board to minimum (fully counterclockwise).
3. Set service switch to "SERVICE" position on main signal board.
4. Advance screen control clockwise to obtain just visible one color line. If line will not appear, place this control to maximum (fully clockwise).
5. Advance each bias control to obtain just visible white line.
6. Set service switch to "NORMAL" position.
7. Adjust red and blue drive controls alternately to produce normal black and white picture in highlight areas.
8. Check for proper gray scale tracking at all brightness levels.

NOTE; If gray scale adjustment is made after picture tube replacement, check brightness level adjustment.

★★ HIGH VOLTAGE CHECK

NOTE; +127V power supply must be checked, and Gray Scale and Tracking should be adjusted before attempting High Voltage Adjustment.

1. Tune receiver to an active channel and synchronize picture.
2. Set Auto-Color/Chroma/Trimatic button to OFF (OUT) position. Set brightness and contrast controls fully counter-clockwise.
3. Connect a high voltage probe to second anode lead at picture tube.
4. High voltage must measure between 20-22KV.

AUTO COLOR/CHROMA/TRIMATIC ADJUSTMENT

1. Tune receiver to an active color channel.
   Set Contrast and Brightness controls to maximum position.
2. Set Auto-Color/Chroma/Trimatic button to OFF (OUT) position.
   Adjust Color (VR802) and Tint (VR803) controls for proper color intensity and natural skin tones.
3. Set Auto-Color/Chroma/Trimatic button to ON (IN) position. Adjust sub-color (VR201) and sub-tint (VR202) controls for proper color intensity and natural skin tones. Repeat steps 2 and 3.
4. Check color intensity and skin tones with Auto-Color/Chroma/Trimatic button ON and OFF on every active color channel.

APC (3.58 MHz SUB CARRIER OSCILLATION) ADJUSTMENT

1. Tune receiver to an unused channel.
   Set Color control for minimum and Tint control for mid-range.
2. Connect Frequency Counter between terminals "TP31" and "TE31" (ground) on main signal board. Connect jumper lead between terminals "TP32" and "TP33".
3. Adjust VR203 for 3.579545 MHz.

AFT FIELD ADJUSTMENT

1. Set AFT Switch OFF (Control box door open) and adjust fine tuning for best picture and color.
2. Set AFT Switch ON (AFT Lever ON position and Control box door close).
   If tuning shifts from correct tuning position, adjust T104 (AFT centering trans) on main signal board for best picture.
3. Check all channels for correct tuning with AFT ON.

BRIGHT AND CONTRAST LEVEL ADJUSTMENT

1. Connect a crosshatch generator to antenna terminals.
2. Connect voltmeter (High impedance) + lead to terminal "TP51" and – lead to terminal "TP50" on main signal board. Set volt meter for 1.5 – 3V range.
3. Set Auto-Color/Chroma/Trimatic button to OFF (OUT) position.
   Set Contrast and Brightness controls for maximum (Fully clockwise).
   Set Color control for minimum (Fully counter-clockwise).
   Set Contrast Level Adj. (VR206) for maximum (Fully counter-clockwise).
4. Adjust Brightness Level Adj. (VR204) for 0.59 volts.
5. Adjust Contrast Level Adj. (VR206) for optimum contrast.
6. Readjust Bright Level Adj. (VR204) if necessary.

NOTE; Do not set to excessive brightness levels, otherwise the contrast level is suppressed.

VIDEO GAIN ADJUSTMENT

1. Connect a VIDEO SYSTEM to this receiver "VIDEO IN" terminal.
2. Set TV-MONITOR switch to "MONITOR" position.
3. Adjust Video Gain Adjustment (VR421) for optimum Video Gain.

VIDEO OUTPUT LEVEL ADJUSTMENT

1. Connect a MONITOR TV to this receiver "VIDEO OUT" terminal.
2. Set TV-MONITOR switch to "TV" position.
3. Adjust Video Output Level Adjustment (VR401) for optimum Video Output Level.

NOTE; ADJUSTMENTS AND TESTING MARKED WITH STARS ★ ★ ARE RELATED TO X-RADIATION SAFETY. FOR CONTINUED X-RADIATION PROTECTION, ADJUSTMENTS AND TESTING MUST BE PERFORMED PROPERLY.

PURITY AND CONVERGENCE ADJUSTMENT

CAUTION; Convergence and Purity have been factory aligned. Do not attempt to tamper with these alignments. However, the effects of adjacent receiver components, or replacement of picture tube or deflection yoke may require the need to readjust purity and convergence. If adjustment is required the adjustments should be made in the following sequence.

PURITY ADJUSTMENTS

1. Place the picture tube face north or south and demagnetize the picture tube and receiver using an external degaussing coil. When replacing picture tube or deflection yoke, mount deflection yoke and purity-convergence magnets assembly properly, see figures 1 and 4.
2. Turn Red and Blue guns off and provide only Green raster. Rotate Screen control to fully counterclockwise. Rotate Red and Blue Bias controls fully counterclockwise. Slowly rotate Green Bias control clockwise to produce Green raster.
3. Loosen the screw holding the Deflection Yoke and slide the Deflection Yoke backward as far as possible, and remove the 3 Rubber Wedges.
4. Rotate and spread the Tabs of the two Purity Magnets to center the vertical green belt in the picture screen. The Purity Magnets are also adjusted to obtain vertical centering of the raster.
5. Slowly slide the Deflection Yoke forward until a uniform green screen is obtained.
6. Check the purity of the red and blue screens for uniformity, turn off other colors to check this (use bias controls). Readjust the yoke position if necessary until all screens are pure.
7. Adjust each Bias control and screen control to obtain white raster. Refer to Gray Scale Adjustment. If part of the picture screen is colored, adjust the Deflection Yoke position forward or backward slightly.
8. Tighten the mounting screw of the Deflection Yoke. Adjust Convergence next.

CENTER CONVERGENCE ADJUSTMENT

1. Use a dot-crosshatch pattern signal.
2. Turn Red and Blue guns on and turn off Green gun. Adjust the angle between the Tabs of the Four Pole Magnet 1 and 2, and superimpose the Red and Blue vertical lines in the center area of the picture screen. Refer to figure 2.
3. Keeping the mutual angle of the Tabs of the Four Pole Magnet turn them together to superimpose the Blue and Red horizontal lines in the center area of the picture screen. Refer to figure 2.
4. Turn Green gun on and adjust Six Pole Magnet 3 and 4 so that the Green line superimposes on the Red/Blue lines. This is the same procedure used in steps 2 and 3. Refer to figure 3.

OUTER AREA COVERGENCE ADJUSTMENT

Slightly loosen the screw holding the Deflection Yoke. Adjust the Deflection Yoke to converge the detail in the outer area of the picture screen by orbital movement of the front of the Yoke, then secure the Deflection Yoke in appropriate position by putting the wedges as illustrated. Tighten screw holding the Deflection Yoke.

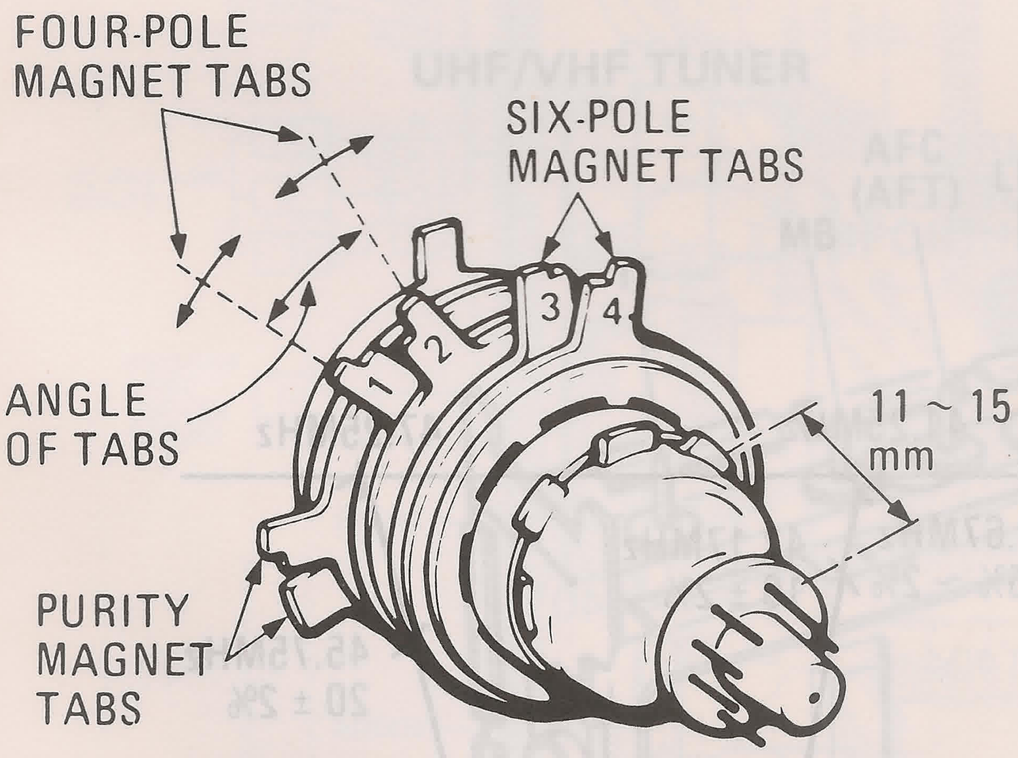


Figure 1 - PURITY AND CONVERGENCE MAGNETS

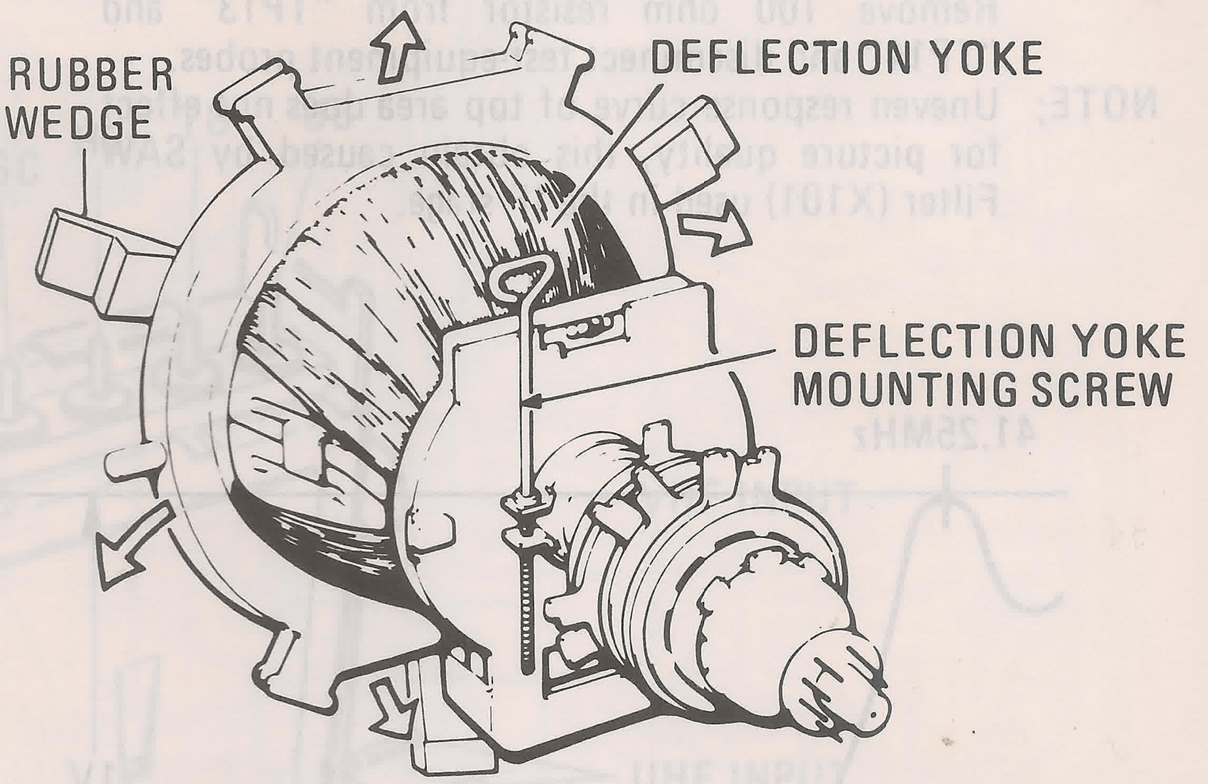


Figure 4 - ADJUSTMENT DEFLECTION YOKE

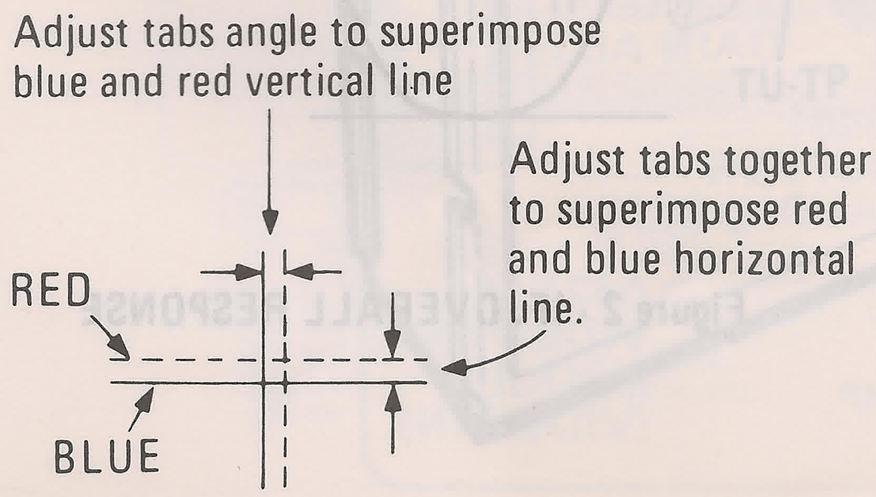


Figure 2 - BLUE AND RED LINE MOVEMENT

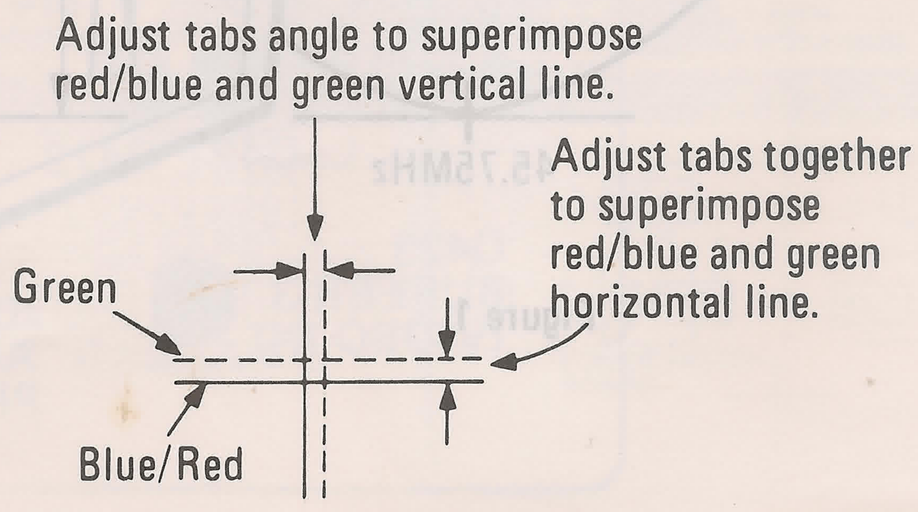


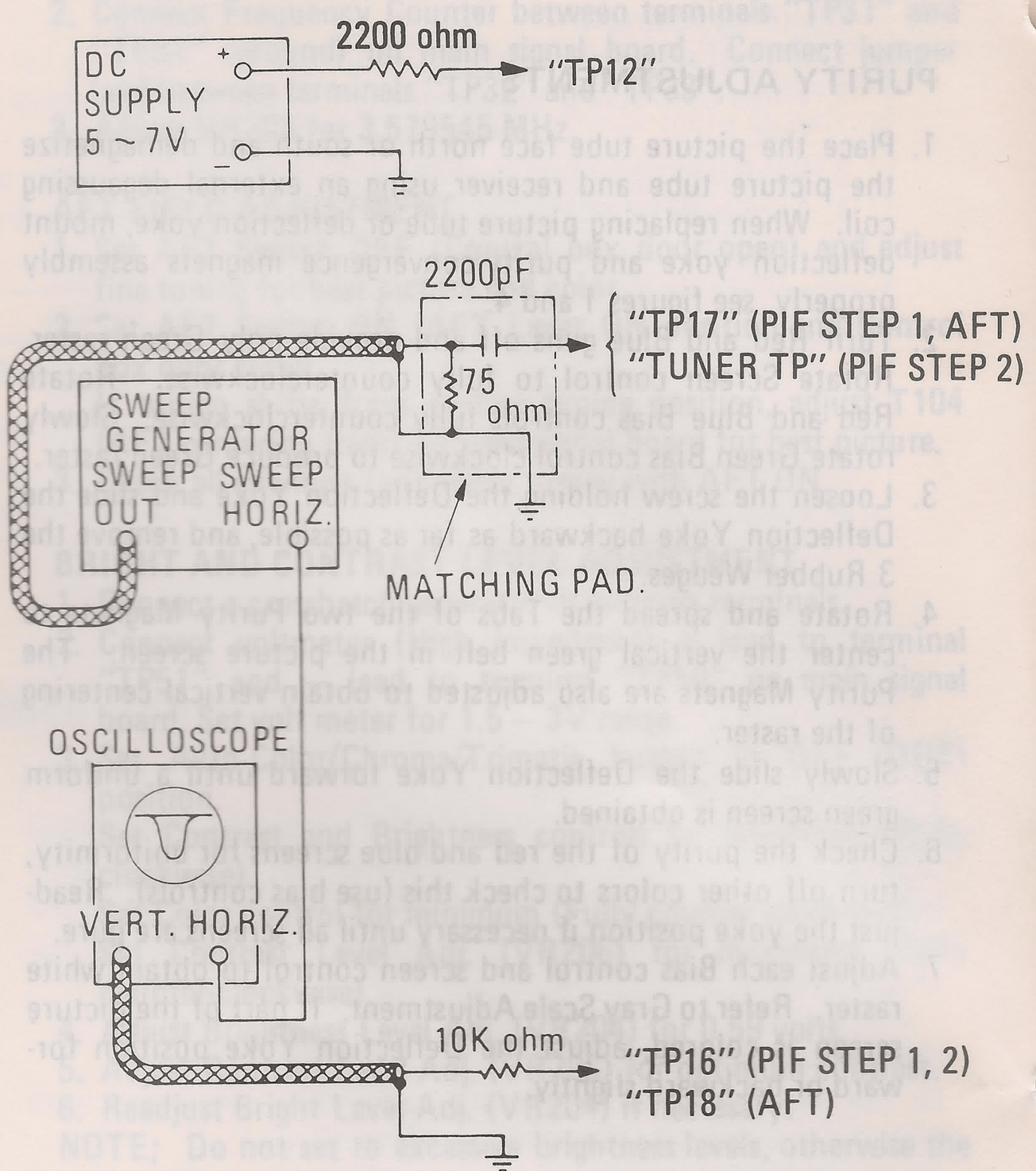
Figure 3 - BLUE/RED AND GREEN LINE MOVEMENT

PIF AND AFT ALIGNMENT INSTRUCTION

PIF ALIGNMENT

PREPARATION STEPS

1. Connect Sweep Generator output to "TP17" on main signal board through matching pad.
   Connect scope input to terminal "TP16" on main signal board through a resistor 10K ohms.
   Apply IF AGC +6.5V to terminal "TP12" on main signal board through a resistor 2200 ohms.
2. Turn the TV set on. Tune receiver to an unused channel. Tune Sweep Generator to 40 ~ 50MHz. Align P.I.F. with following steps.



ALIGNMENT PROCEDURE

STEP 1 Gradually increase sweep output to obtain the response amplitude approximately 1 volt. If excessive large or small amplitude response curve is observed, slightly adjust IF AGC 6.5 volts. Adjust T103 for minimum amplitude at 41.25MHz on response curve.
Adjust T105 to obtain response shown in Fig.-1.

STEP 2 Remove Sweep Generator output and matching pad from "TP17" and connect it to "TUNER TP" on UHF/VHF Tuner.
Connect 100 ohm resistor between "TP13" and "TP14".
Adjust T101 and tuner IFT to obtain response shown in Fig.-2.
T101 effect the amplitude of 45.75MHz and Tuner IFT effects 42.17MHz.
Adjust T101 and Tuner IFT for large amplitude of the response and wider band width. Check Sound Trap (T103), readjust if necessary.
Remove 100 ohm resistor from "TP13" and "TP14" and disconnect test-equipment probes.

NOTE; Uneven response curve of top area does not effect for picture quality, this obtain caused by SAW Filter (X101) used in the IF stage.

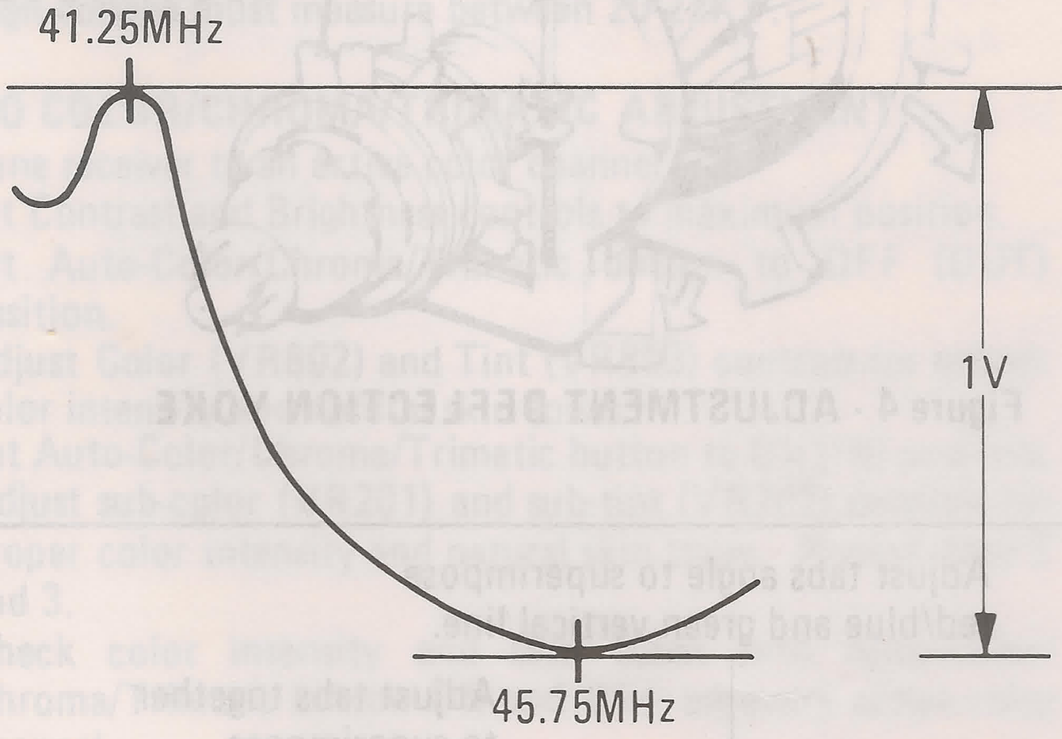


Figure 1

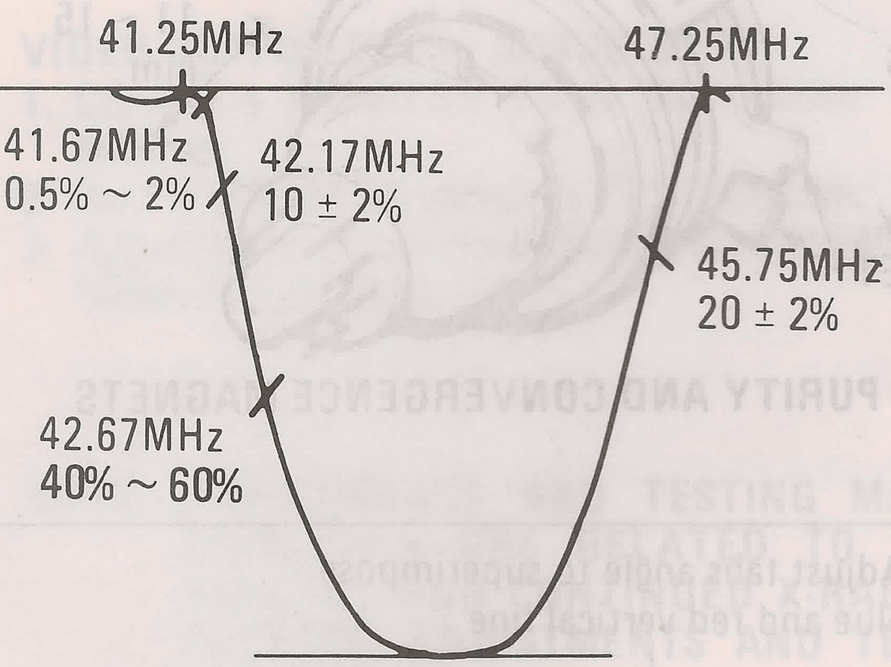


Figure 2 - IF. OVERALL RESPONSE

A2KCS

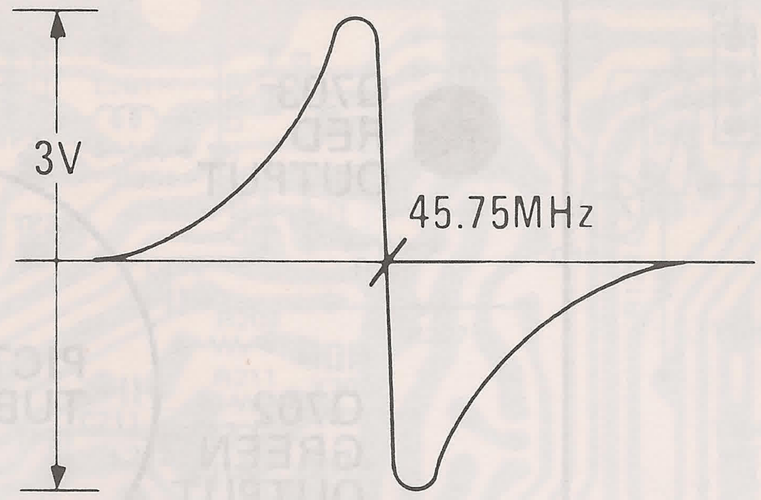
AFT ALIGNMENT

PREPARATION STEPS

1. Connect Sweep Generator output to "TP17" on main signal board through matching pad.
   Connect scope input to terminal "TP18" on main signal board through resistor 1K ohms.
   Apply IF AGC +6.5V to terminal "TP12" on main signal board through a resistor 2200 ohms.
2. Turn the TV set on. Tune receiver to an unused channel. Align A.F.T. with following steps.

ALIGNMENT PROCEDURE

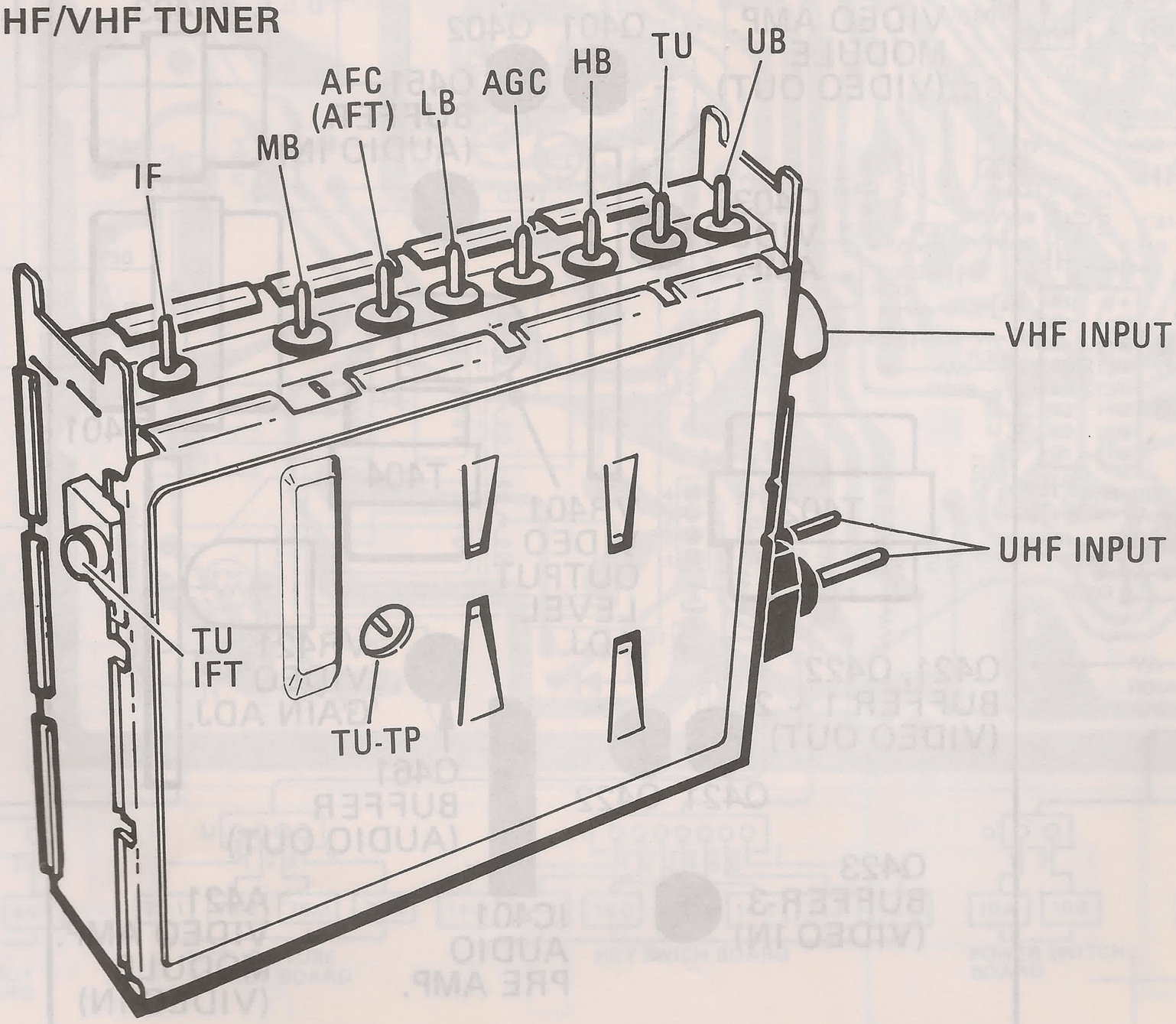
Gradually increase sweep output to obtain the response amplitude approximately 3 volts. Turn the 45.75MHz marker ON.
Adjust AFT Centering coil T104 to position 45.75MHz marker on reference level line, see response figure.



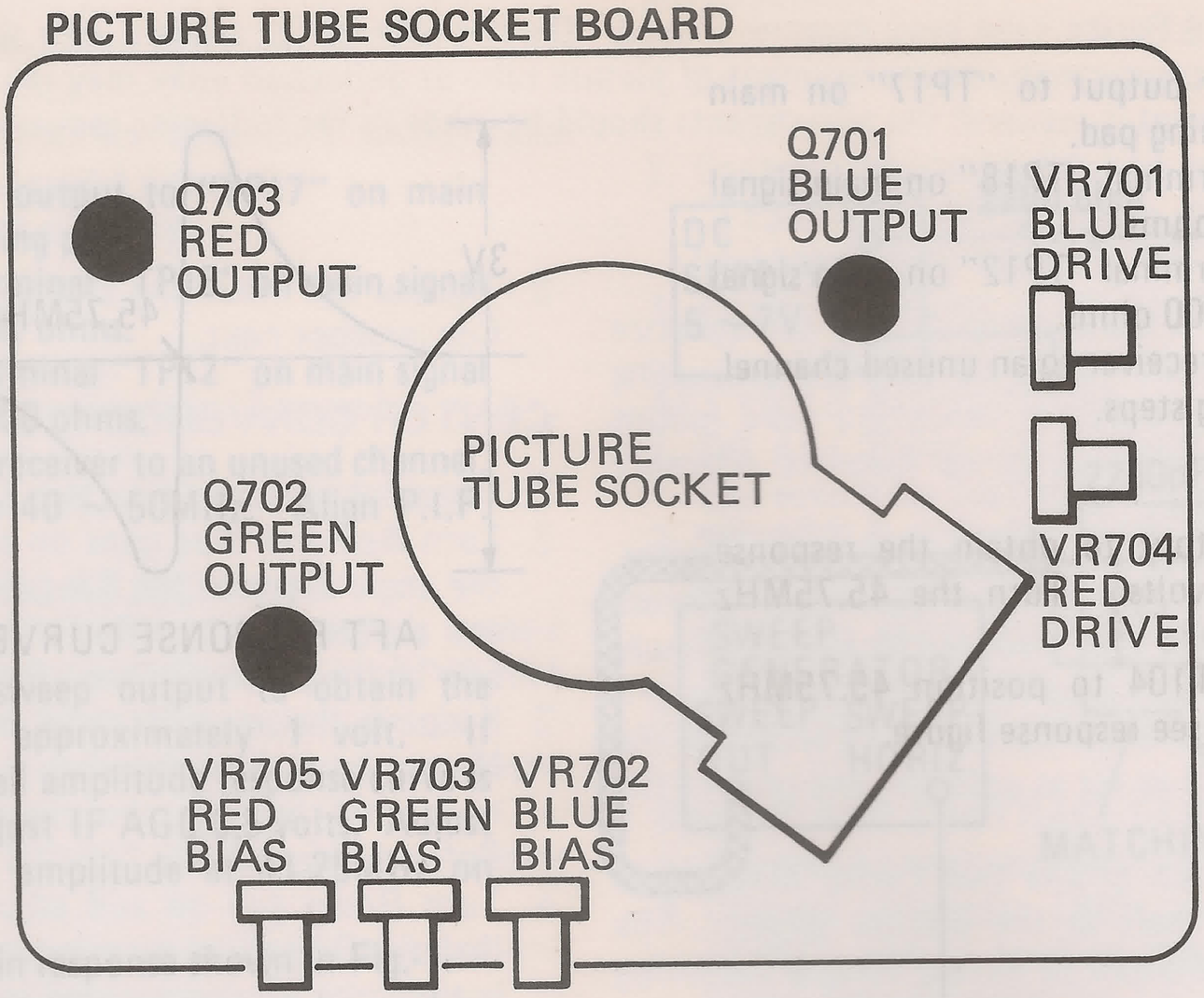
AFT RESPONSE CURVE

COMPONENT AND TESTPOINT LOCATIONS

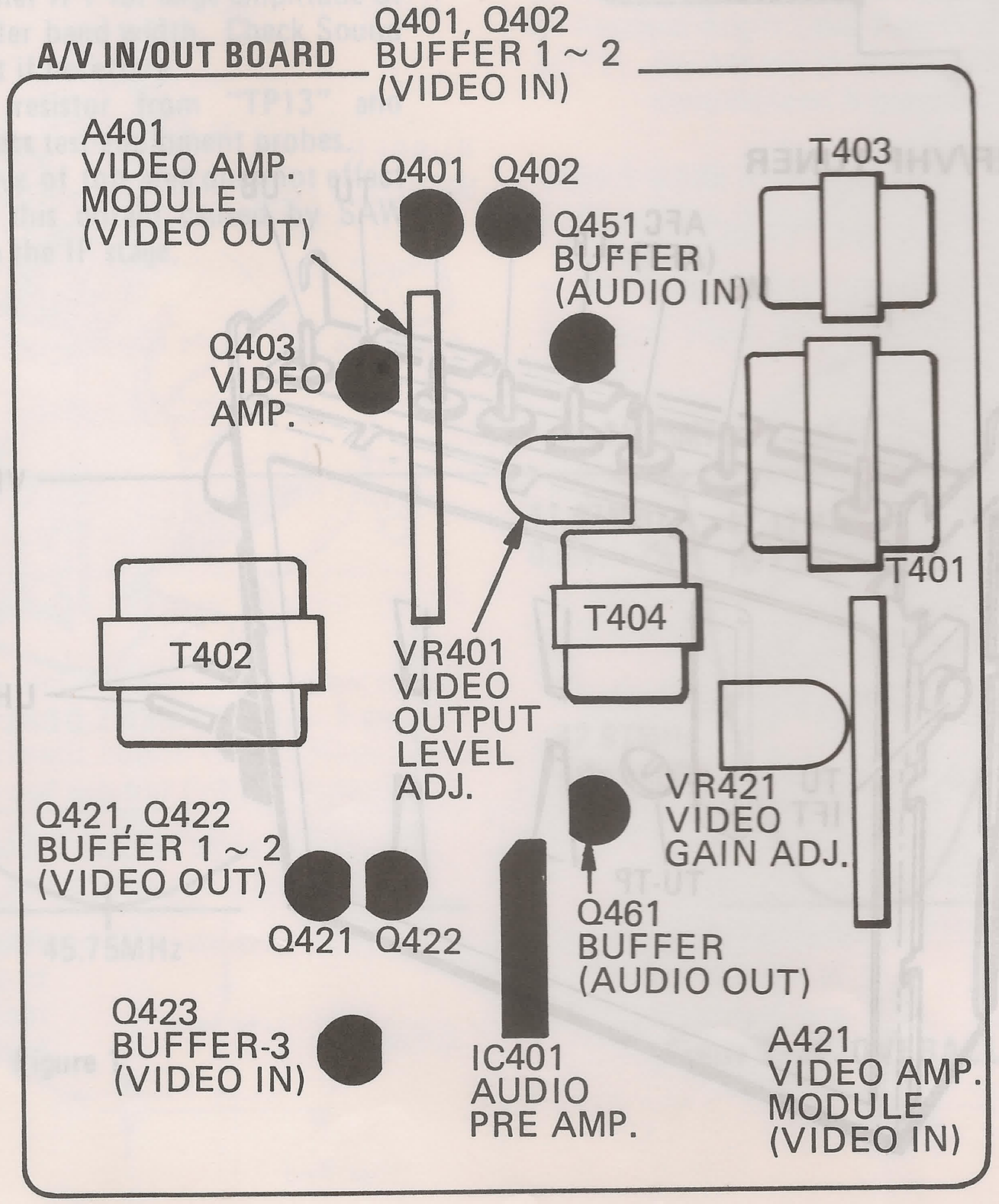
UHF/VHF TUNER



PICTURE TUBE SOCKET BOARD

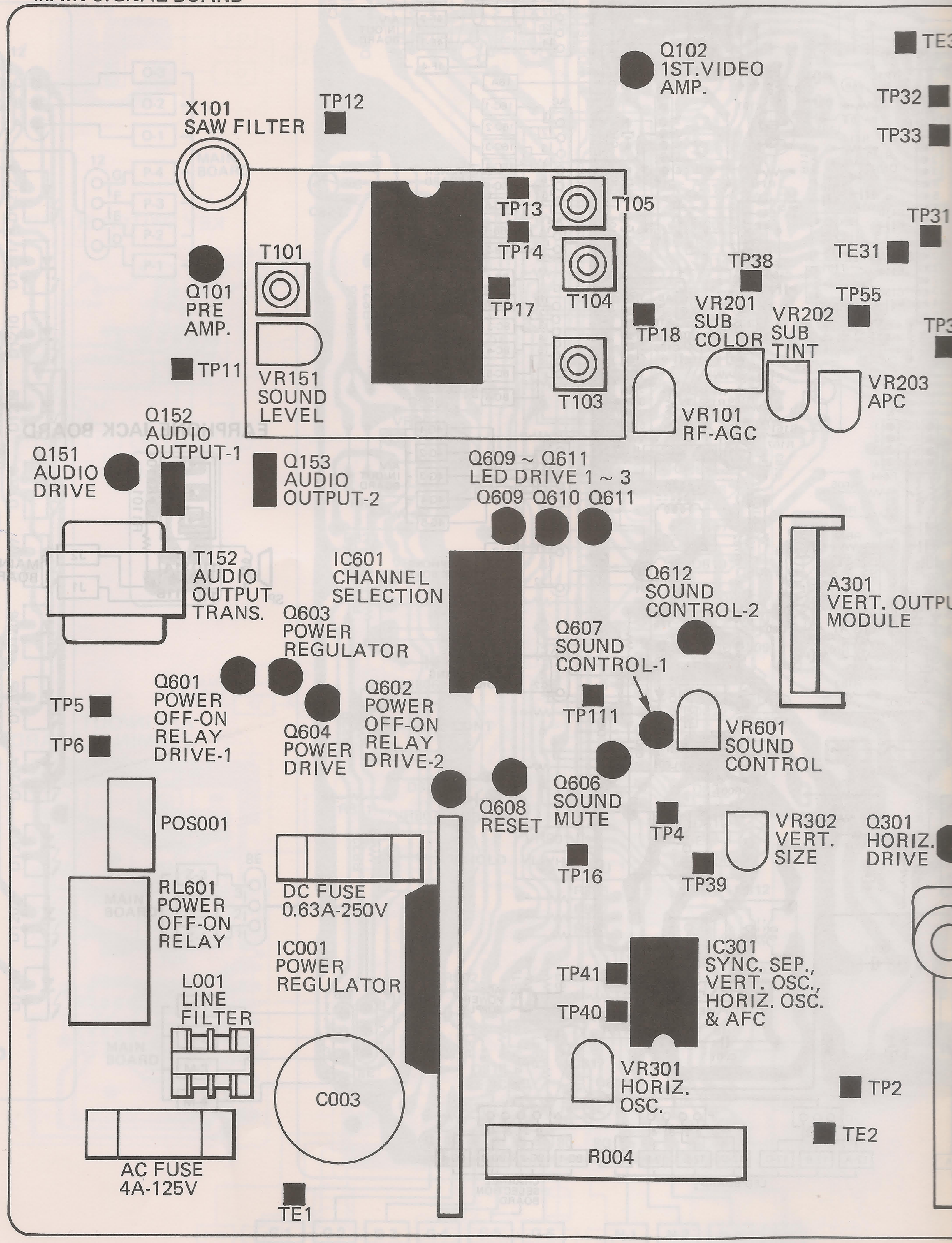


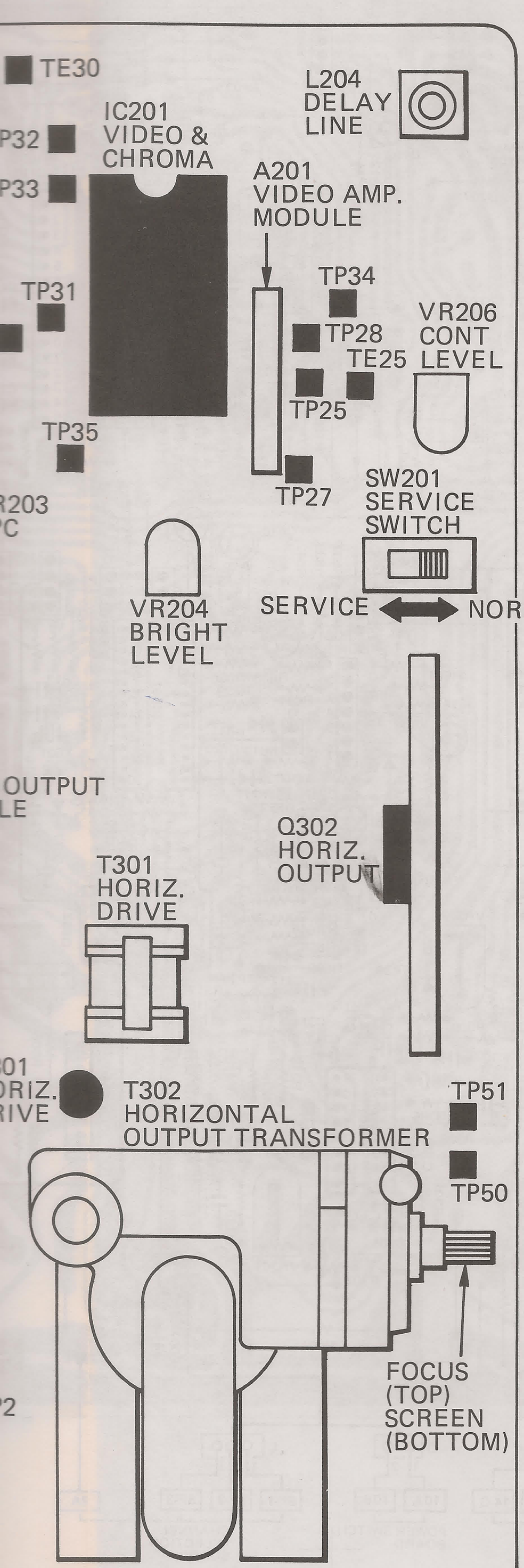
A/V IN/OUT BOARD

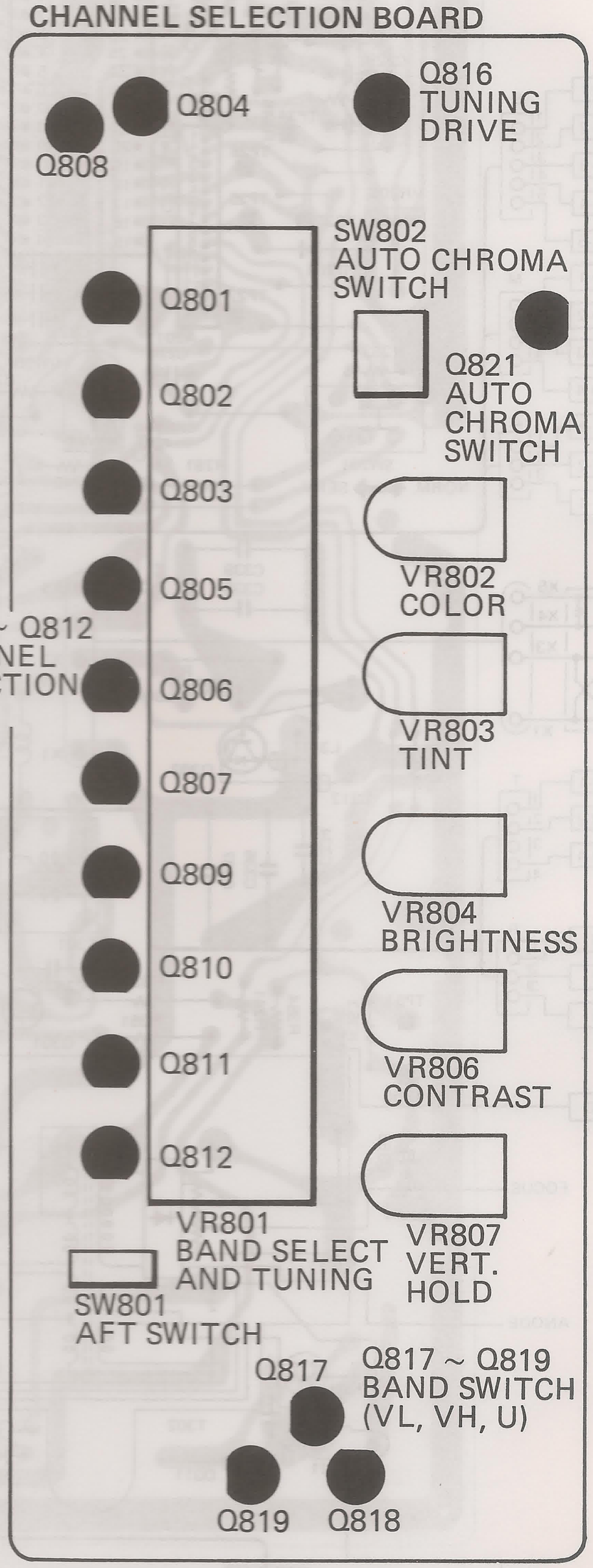


A2KCS

MAIN SIGNAL BOARD

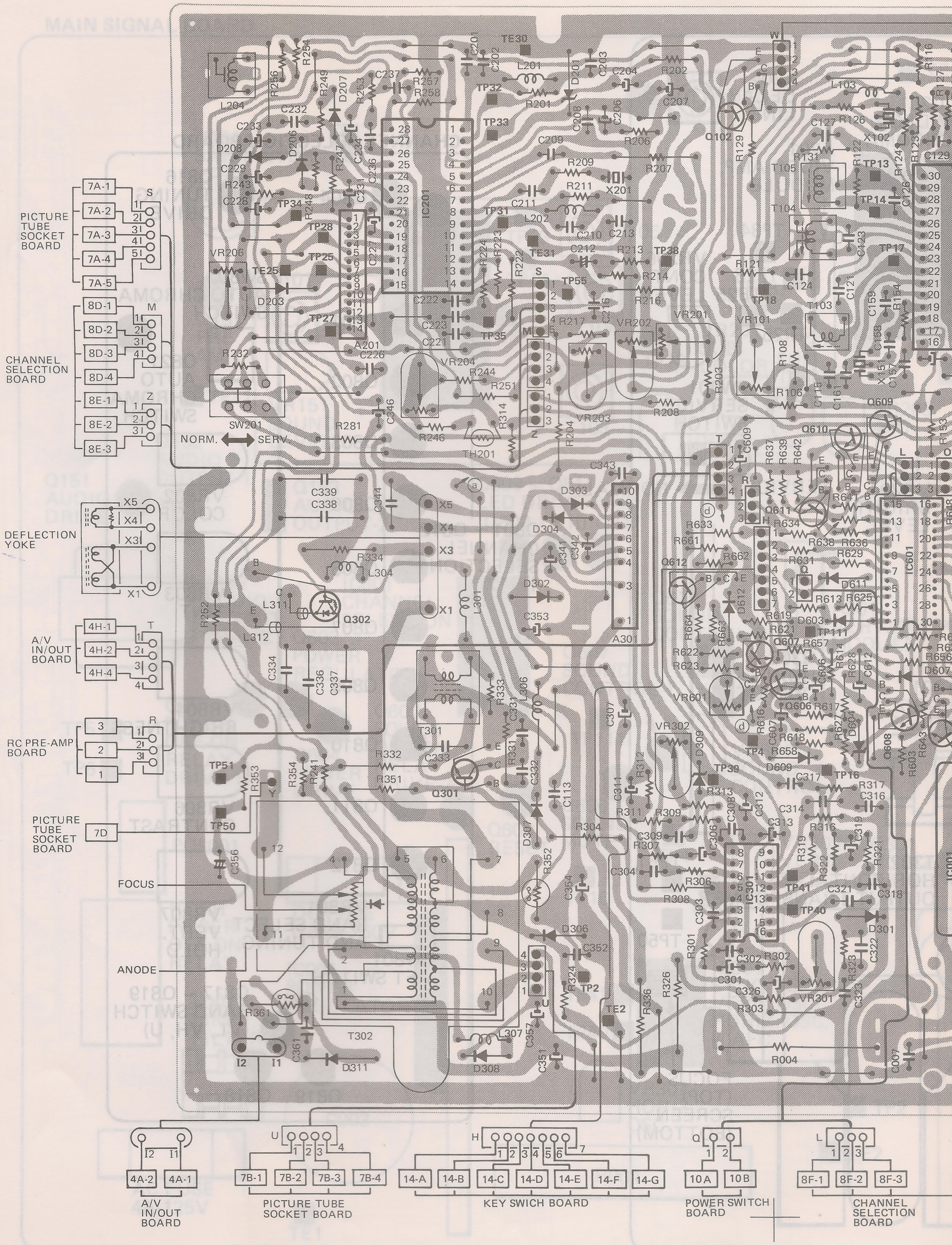


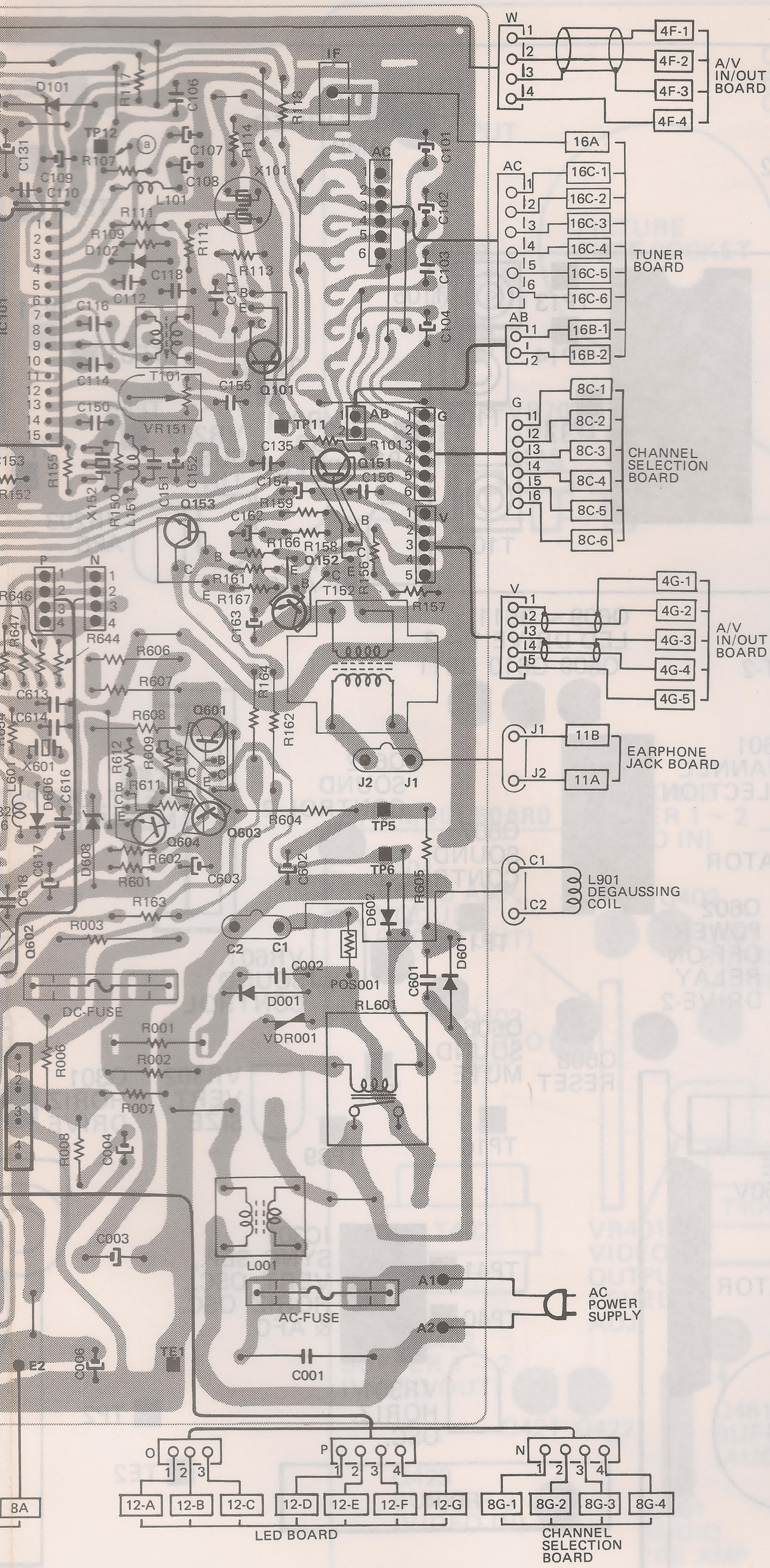

TE30
IC201
VIDEO &
CHROMA
L204
DELAY
LINE
P32
P33
A201
VIDEO AMP.
MODULE
TP34
TP31
VR206
CONT
LEVEL
TP28
TE25
TP25
TP35
TP27
SW201
SERVICE
SWITCH
R203
C
VR204
BRIGHT
LEVEL
SERVICE
NORMAL
OUTPUT
LE
Q302
HORIZ.
OUTPUT
T301
HORIZ.
DRIVE
01
RIZ.
RIVE
T302
HORIZONTAL
OUTPUT TRANSFORMER
TP51
TP50
FOCUS
(TOP)
SCREEN
(BOTTOM)
2


CHANNEL SELECTION BOARD
Q804
Q816
TUNING
DRIVE
Q808
SW802
AUTO CHROMA
SWITCH
Q801
Q821
AUTO
CHROMA
SWITCH
Q802
Q803
VR802
COLOR
Q805
Q801 ~ Q812
CHANNEL
SELECTION
1 ~ 12
Q806
VR803
TINT
Q807
VR804
BRIGHTNESS
Q809
Q810
VR806
CONTRAST
Q811
Q812
VR807
VERT.
HOLD
VR801
BAND SELECT
AND TUNING
SW801
AFT SWITCH
Q817
Q817 ~ Q819
BAND SWITCH
(VL, VH, U)
Q819
Q818

PRINTED WIRING DIAGRAMS

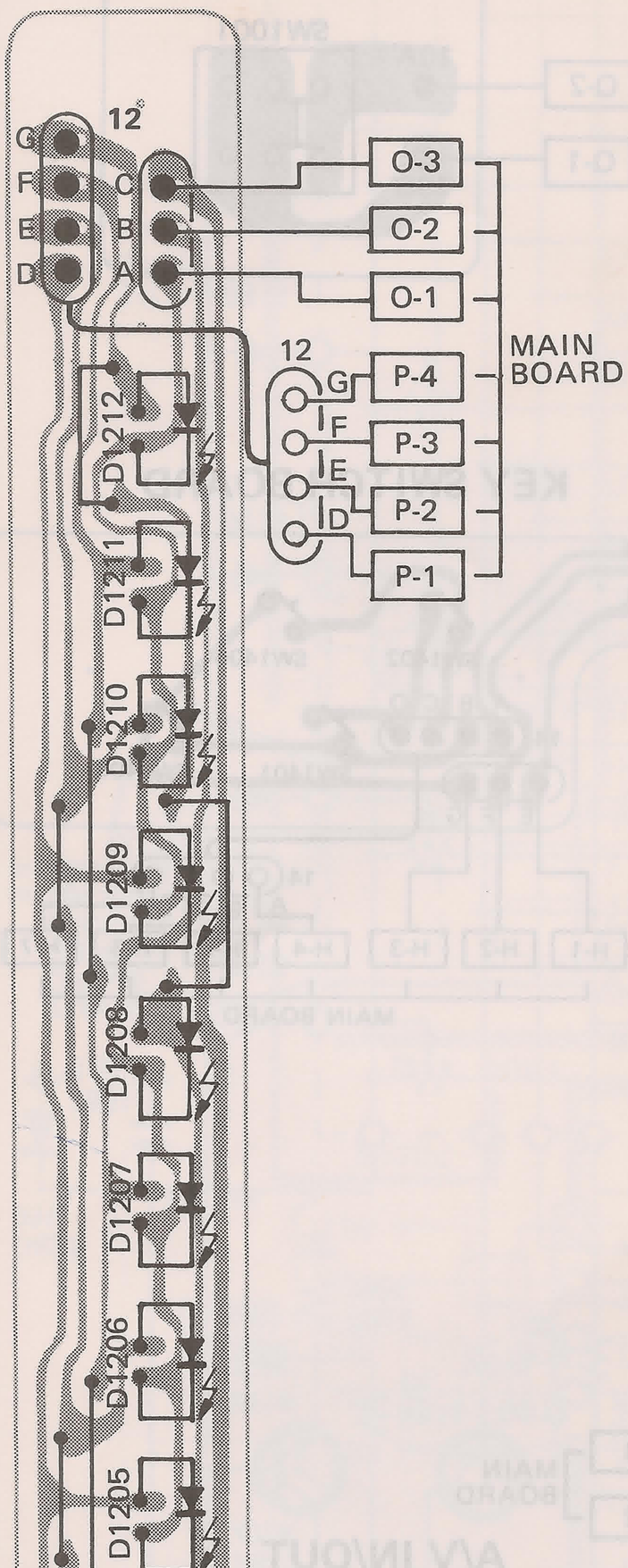
MAIN BOARD



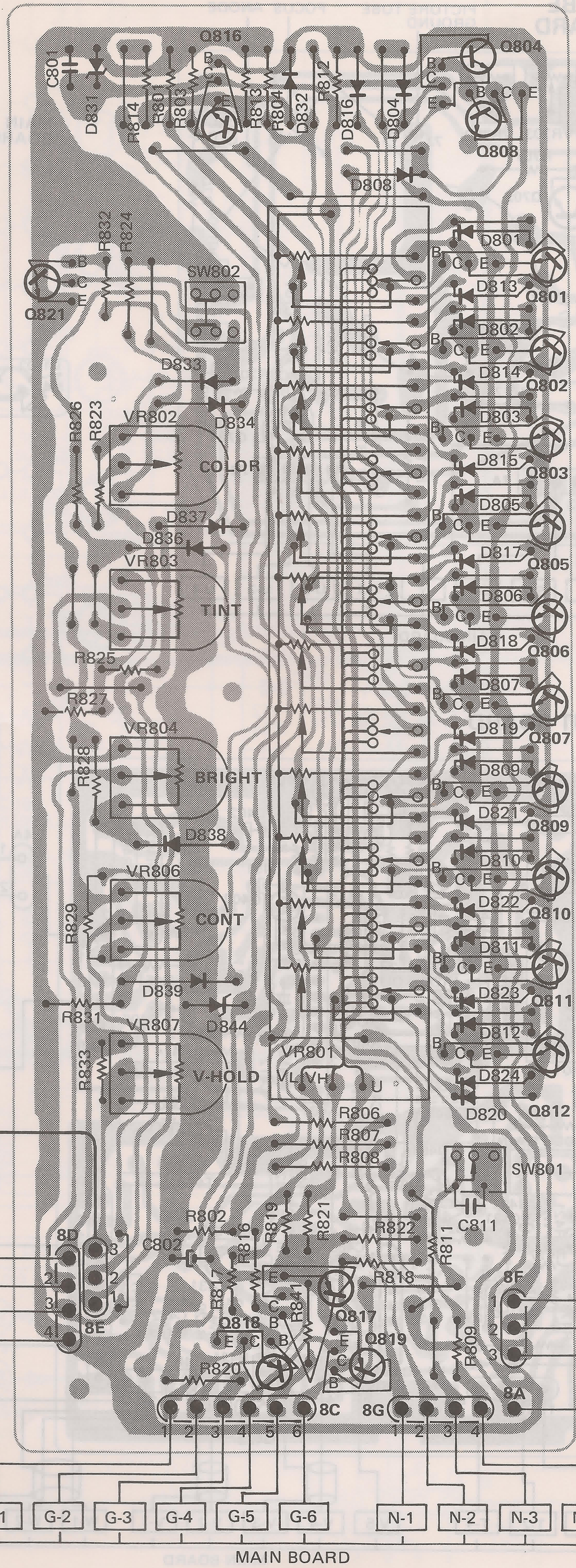


EARPHONE JACK BOARD

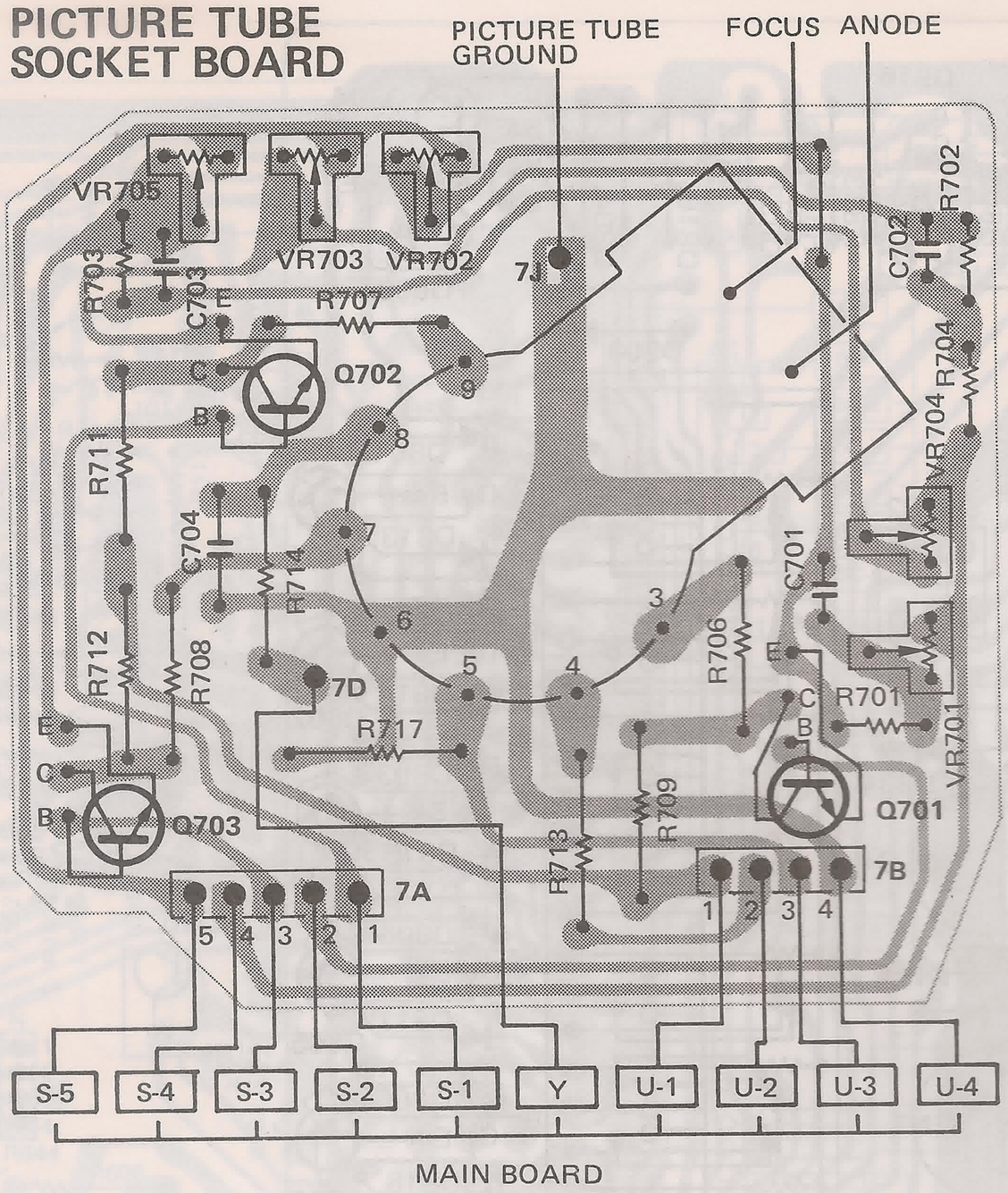
LED BOARD



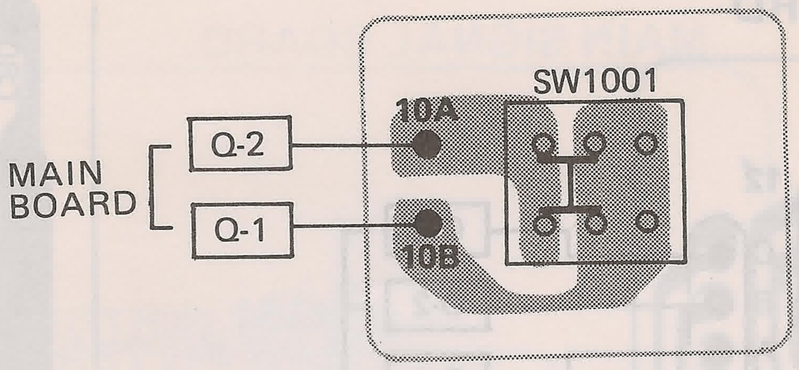
CHANNEL SELECTION BOARD



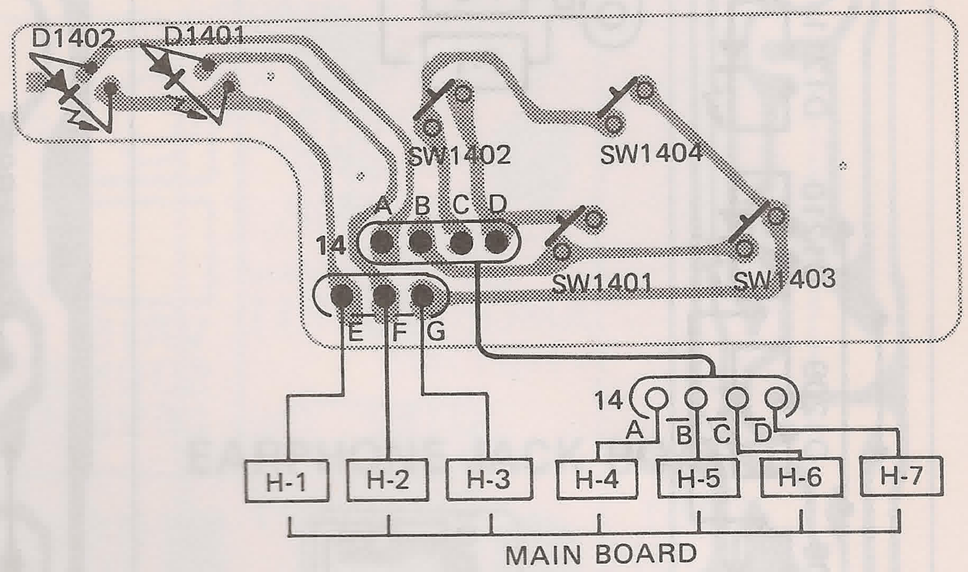
PICTURE TUBE SOCKET BOARD



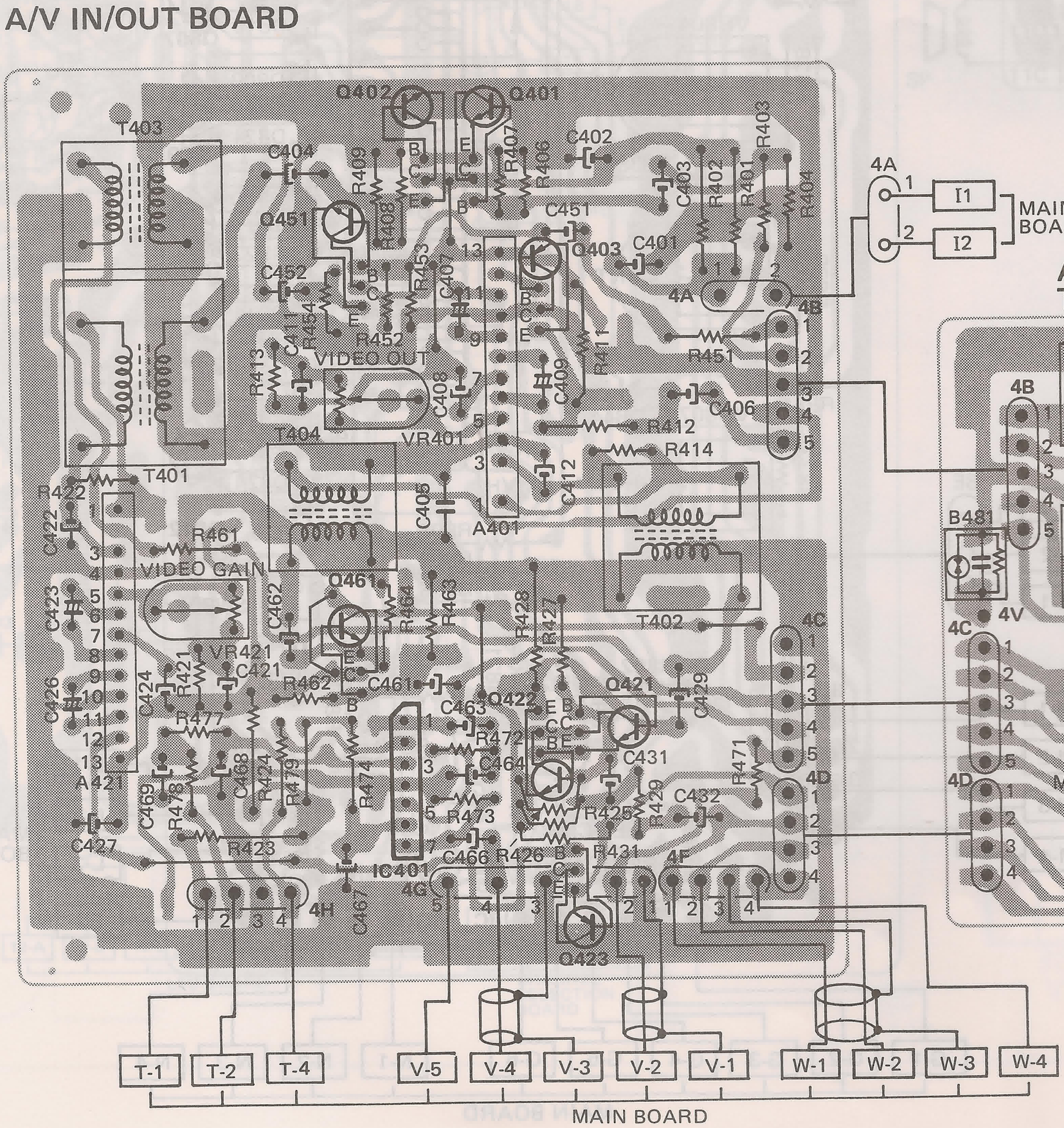
POWER SWITCH BOARD



KEY SWITCH BOARD



A/V IN/OUT BOARD

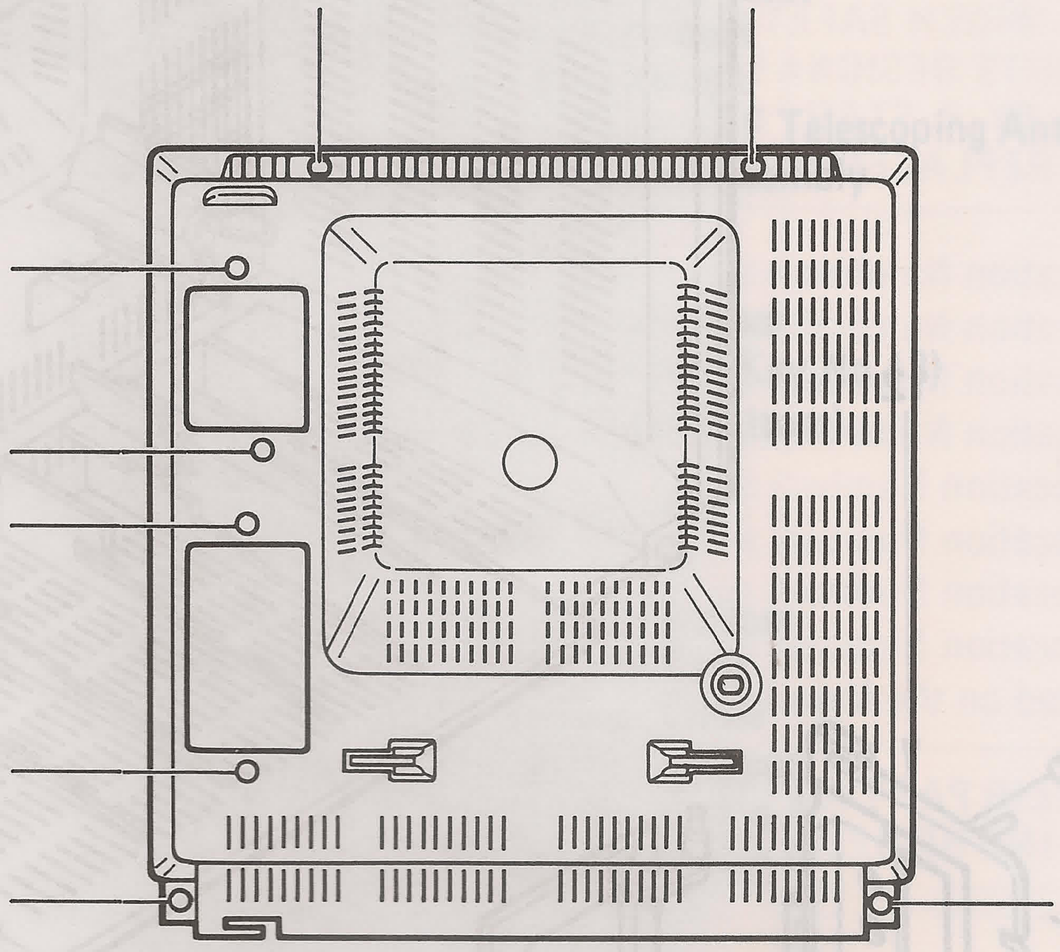


A2K

MECHANICAL DISASSEMBLIES

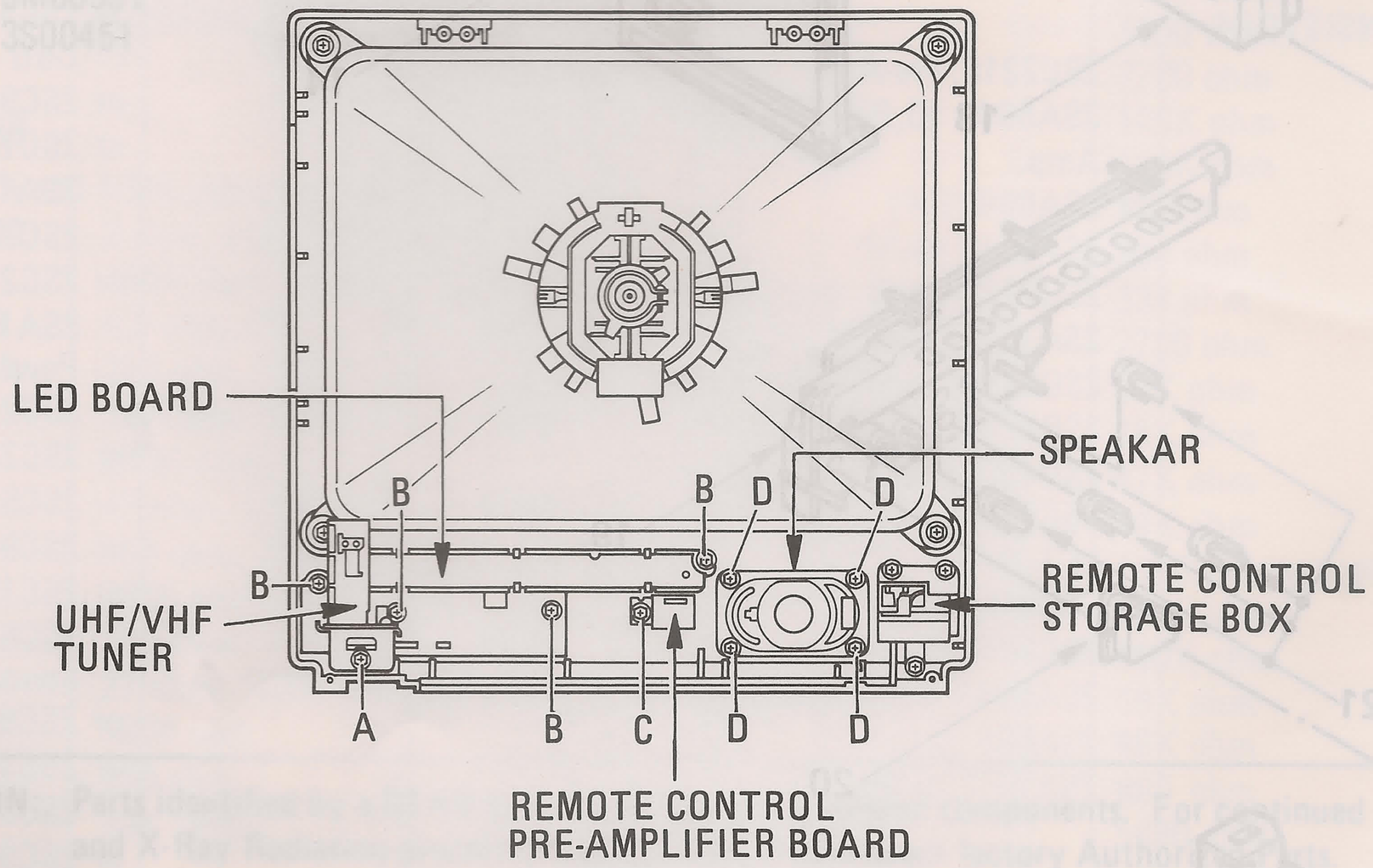
CABINET BACK REMOVAL

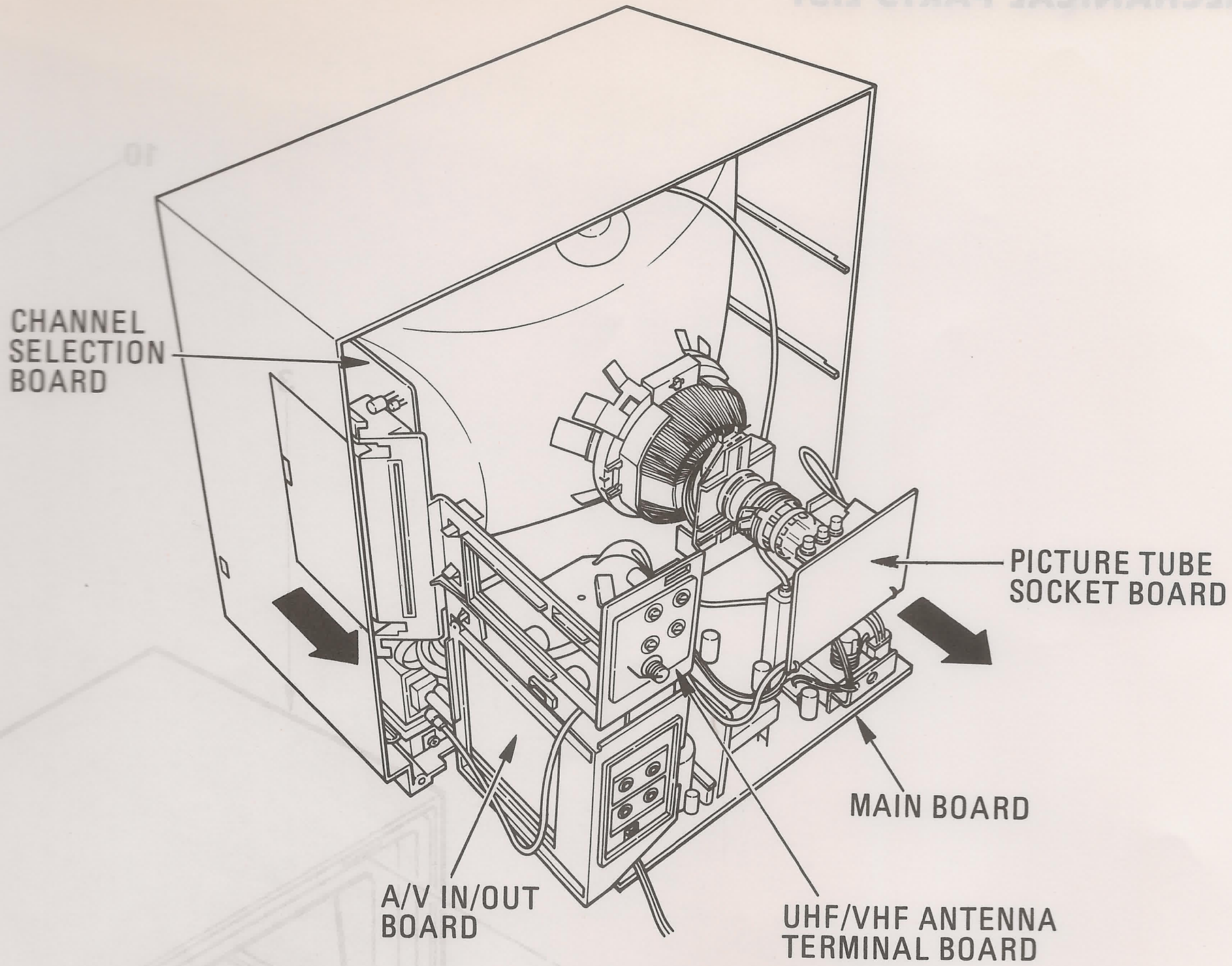
1. Refer to below figure and remove 8 screws.
2. Pull cabinet back off and remove cabinet back.



CHASSIS REMOVAL

1. Remove "Cabinet Back" refer to "Cabinet Back Removal".
2. Remove Screw-A (Tuner Board Base mtg. 1 used), Screws-B (LED Board mtg. 4 used), Screw-C (Remote Control Pre-Amplifier Board mtg. 1 used) and Screws-D (Speaker mtg. 4 used).
3. Disconnect Degaussing coil socket, picture tube socket, Deflection yoke socket, 2nd anode lead and Picture tube grounding lead.
4. Pull out chassis from cabinet, and remove chassis completely.



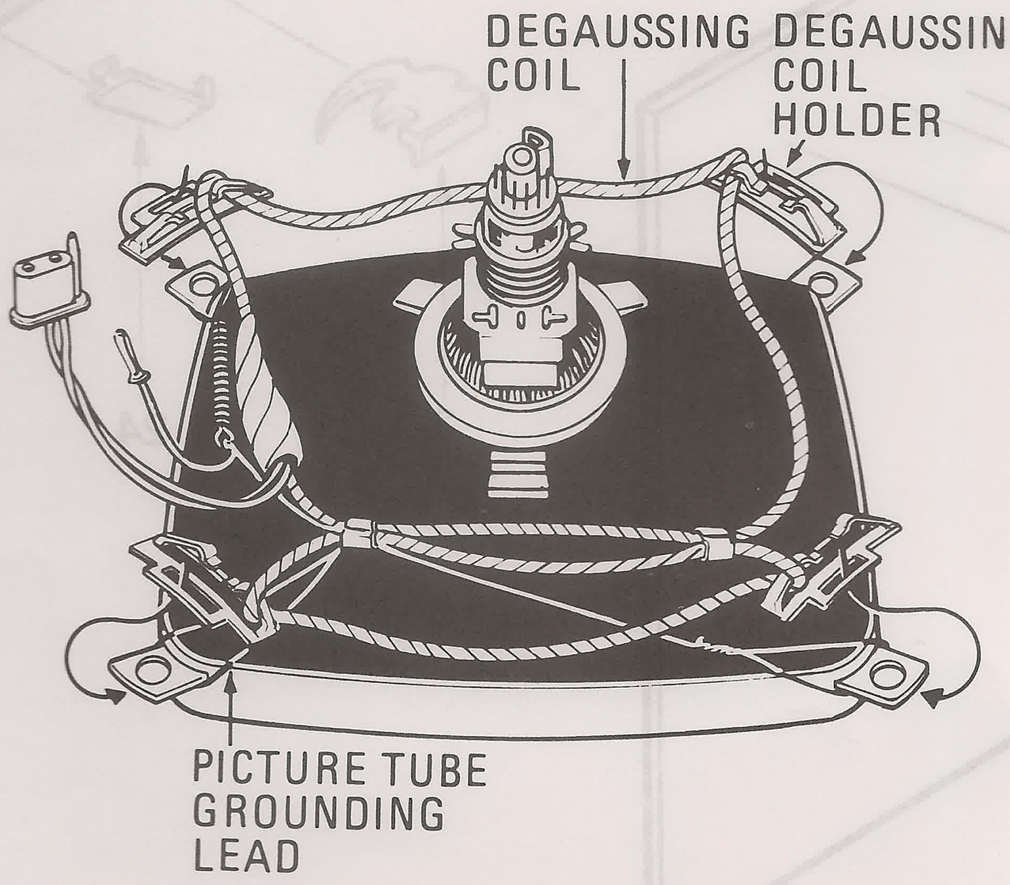


PICTURE TUBE REMOVAL

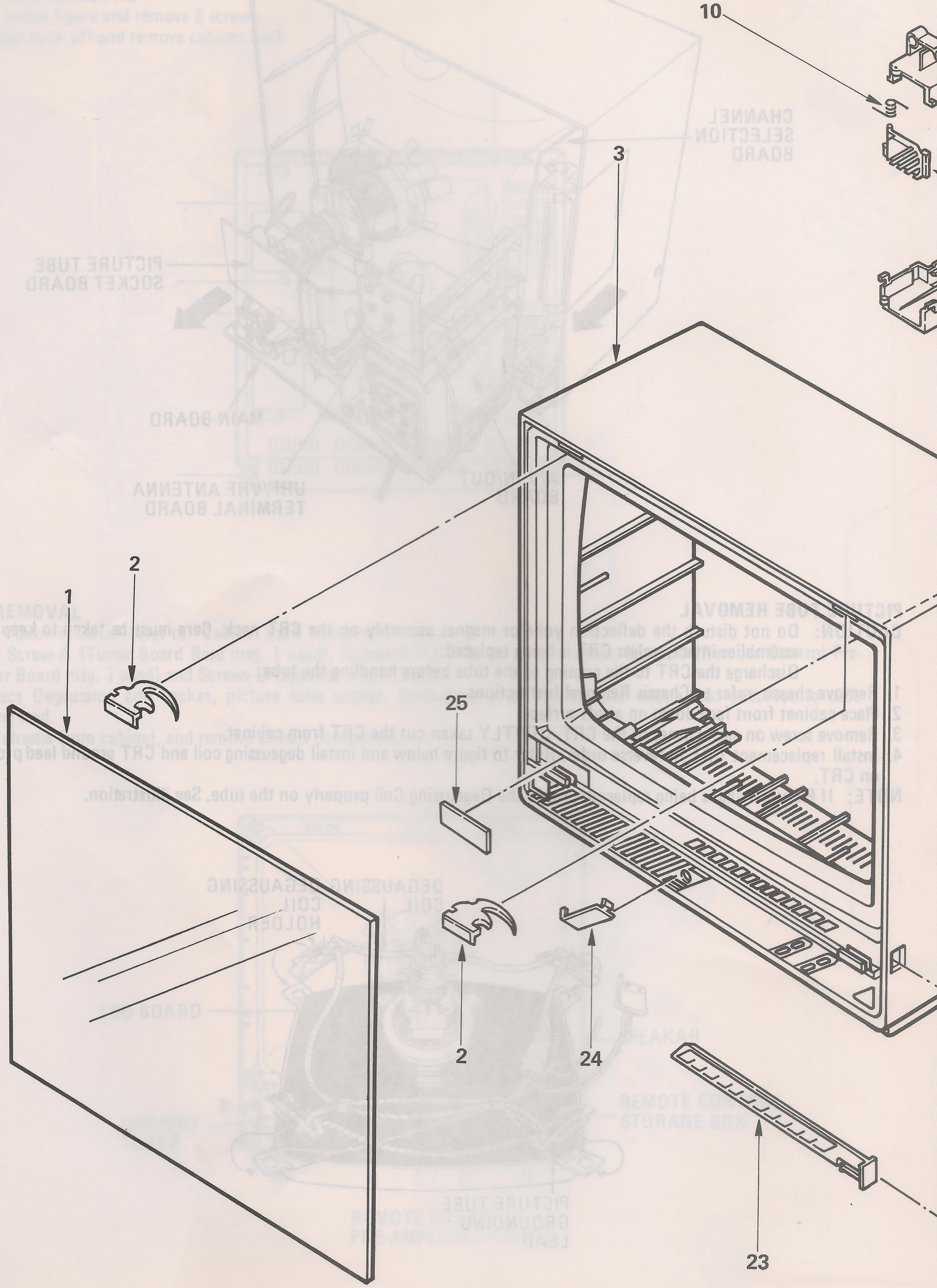
CAUTION: Do not disturb the deflection yoke or magnet assembly on the CRT neck. Care must be taken to keep these assemblies intact, unless CRT is being replaced.
Discharge the CRT to the coating of the tube before handling the tube.

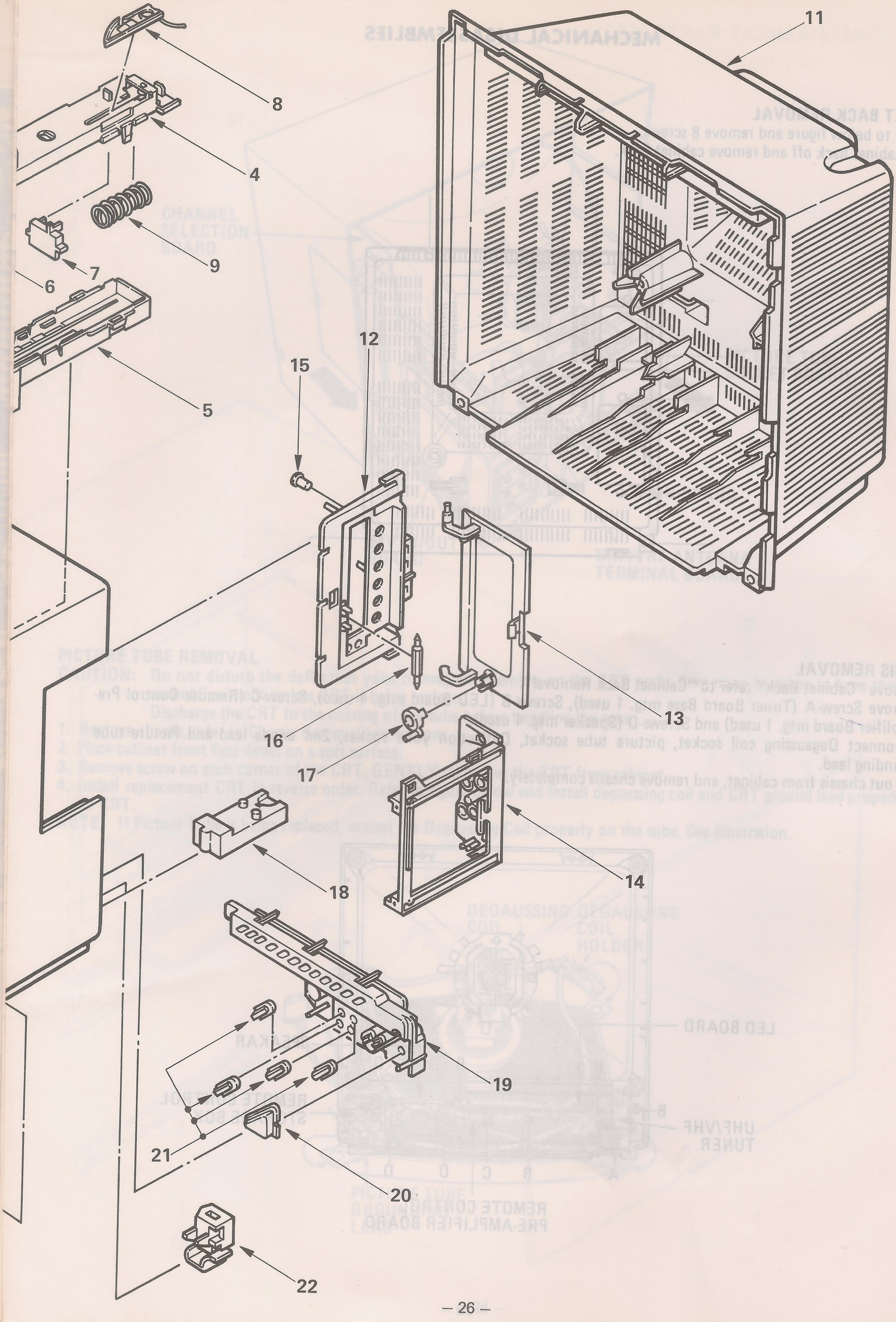
1. Remove chassis, refer to Chassis Removal Instructions.
2. Place cabinet front face down on a soft surface.
3. Remove screw on each corner of the CRT. GENTLY taken out the CRT from cabinet.
4. Install replacement CRT in reverse order. Refer to figure below and install degaussing coil and CRT ground lead properly on CRT.

NOTE; If Picture Tube is being replaced, mount the Degaussing Coil properly on the tube. See illustration.



MECHANICAL PARTS LIST





A2KD
A2KA
A2KC

Key No.	Part No.	Description
	3P01033	Owner's Manual
	US0019XA	Transmitter, Remote Control (RC290)
	3S00607	Indicator Sheet for Remote Control Transmitter
	E4506	UHF Loop Antenna
	J9604A	VHF Telescoping Antenna (2 used)
	ET0006	** VHF Telescoping Antenna (2 used)
	3100352A	** VHF Telescoping Antenna Base
	J7561A	** Twin Lead Wire with Terminals
	1650024	** Screw, 3 x 12mm (2 used), VHF Telescoping Antenna mtg.
		** Part of VHF Telescoping Antenna Assembly
	3S00480	Channel Indicator Tab Sheet
1	3X00009	Glare Reducing Screen Glass
2	3151191	Holder, Glare Reducing Screen Glass
3	YP00460	Cabinet Front (Not Include Door Key No 13)
	3S00096A	Hole Cover Sheet (Front Right Bottom)
	3151300	Brand Badge
4	3M00711	Remote Control Storage Box Top
	3S00583	Hole Cover Sheet
5	3M00712	Remote Control Storage Box Bottom
6	3M00069B	Remote Control Storage Box Door
7	3M00070	Remote Control Storage Box Guide
8	3151289	Remote Control Storage Box Stopper
9	1S00013	Remote Control Storage Box Spring-A
10	1650190	Remote Control Storage Box Spring-B
11	3M00671	Cabinet Back
	2P00260	Name Plate
12	3M00614	Side Controls Bracket
13	3M00107	Door
	3S00603	Controls Instraction Sheet
14	3M00615	Holder, A/V IN/OUT Board
	3S00559	Instraction Sheet
15	3101294A	★Knob, Auto Color
16	3M00119	Knob, Band Select
17	3151187	Knob, AFT
18	3M00659	Base, Tuner Board
19	3M00710	Front Controls Bracket
20	3M00738	★Knob, Power
21	3M00049	★Knob, Channel Up/Down and Volume Up/Down (4 used)
22	3M00103	Holder, AC Power Supply Cord
23	3M00095	Holder, Channel Indicator Tab Sheet
24	3M00591	Cover, Remote Control Pre Amplifier
25	3S00451	Decoration Plate

CAUTION: Parts identified by a STAR (★) are critical safety related components. For continued safety and X-Ray Radiation protection replace ONLY with exact factory Authorized Parts.

CHASSIS ELECTRICAL PARTS LIST

WARNING!! To protect servicing personnel against electric shock and for continued product safety, refer to SAFETY PRECAUTIONS, X-RADIATION PRECAUTIONS and PRODUCT SAFETY NOTICE.

PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. COMPONENTS INDICATED BY A STAR (★) IN THIS PARTS LIST AND THE SCHEMATIC DIAGRAM DESIGNATE COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS DESIGNATED ON THE FOLLOWING PARTS LIST BE USED FOR COMPONENT REPLACEMENT DESIGNATED BY A STAR. NO DEVIATIONS FROM RESISTANCE WATTAGE, AND VOLTAGE RATINGS MAY BE MADE FOR REPLACEMENT ITEMS DESIGNATED BY A STAR.

NOTES; 400 Series Schematic Location Numbers are Located on A/V IN/OUT Board.
700 Series Schematic Location Numbers are Located on Picture Tube Socket Board.
800 Series Schematic Location Numbers are Located on Channel Selection Board.
900 Series Schematic Location Numbers are Located off Circuit Board.
1000 Series Schematic Location Numbers are Located on Power Switch Board.
1100 Series Schematic Location Numbers are Located on Earphone Jack Board.
1200 Series Schematic Location Numbers are Located on LED Board.
1400 Series Schematic Location Numbers are Located on Key Switch Board.
Other Numbers are Located on the Main Signal Board.

FOR ITEMS WHICH HAVE THEIR PART NUMBER COLUMN LEFT BLANK, USE AS THEIR IDENTIFICATION THE TYPES OR NUMBERS GIVEN IN THE DESCRIPTION COLUMN.

Schematic Location	Part No.	Description
INTEGRATED CIRCUITS		
★IC001		STR3127, Power Regulator
IC101		M51354AP, PIF & SIF Amp. and AFC
IC201		LA7601W, Video & Chroma
★IC301		LA7800R, Sync. Sep., Vert. Osc., Horiz. Osc. & AFC
IC401		AN5262, Audio Pre-Amp.
IC601		M58850-600SP, Channel Selection
TRANSISTORS		
Q101		2SC2216, Pre-Amp.
Q102		2SA564A (Q,R), 1st. Video Amp.
		or 2SA608 (E,F)
		or 2SA1015 (G,Y)
Q151		2SC2228 (D,E), Audio Drive
Q152		2SA1021, Audio Output-1
Q153		2SC2481, Audio Output-2
Q301		2SC2228M, Horiz. Drive
★Q302		2SD1397B, Horiz. Output
Q401, Q402		2SC536 (F,G), Buffer (Video In 1-2)
		or 2SC945A (K,P)
		or 2SC1815 (G)
Q403		2SA564A (Q,R), Video Out
		or 2SA608 (E,F)
		or 2SA1015 (G,Y)
Q421, Q422		2SC536 (F,G), Buffer (Video Out 1-2)
		or 2SC945A (K,P)
		or 2SC1815 (G)
Q423		2SA564A (Q,R), Buffer (Video In 3)
		or 2SA608 (E,F)
		or 2SA1015 (G,Y)
Q451		2SC536 (F,G), Buffer (Audio In)
		or 2SC945A (K,P)
		or 2SC1815 (G)
Q461		2SC536 (F,G), Buffer (Audio Out)
		or 2SC945A (K,P)
		or 2SC1815 (G)
Q601		2SA1091 (O,R), Relay Drive-1
Q602		2SC2551 (O), Relay Drive-2
		or 2SC2857 (D,E)
Q603		2SA1091 (O,R), Power Regulator
Q604		2SC2551 (O), Power Drive
		or 2SC2857 (D,E)
Q606		2SC536 (F,G), Sound Mute
		or 2SC945A (P,K)
		or 2SC1815 (G)
Q607		2SC536 (E,F,G), Sound Control-1
		or 2SC945A (P,Q,R)
		or 2SC1815 (G,O,Y)
Q608		2SC536 (E), Reset
		or 2SC945A (R)
		or 2SC1815 (O)

Schematic Location	Part No.	Description
Q609		2SC536 (E,F,G),
		LED Drive-1-3
Q610		or 2SC945A (P,Q,R)
Q611		or 2SC1815 (G,O,Y)
Q612		2SC536 (F,G),
		Sound Control-2
		or 2SC945A (K,P)
		or 2SC1815 (G)
Q701		2SC1473NC (P,Q,R), Blue
		Output
		or 2SC2229 (O,Y)
Q702		2SC1473NC (P,Q,R), Green
		Output
		or 2SC2229 (O,Y)
Q703		2SC1473NC (P,Q,R), Red
		Output
		or 2SC2229 (O,Y)
Q801		2SC536 (F,G),
		Channel Selection 1-12
Thru		or 2SC945A (K,P)
Q812		or 2SC1815 (G)
Q816		2SC536 (E,F,G), Tuning Drive
		or 2SC945A (P,Q,R)
		or 2SC1815 (G,O,Y)
Q817		2SA564A (Q,R), Band Switch
		(VL)
		or 2SA608 (E,F)
		or 2SA1015 (G,Y)
Q818		2SA564A (Q,R), Band Switch
		(VH)
		or 2SA608 (E,F)
		or 2SA1015 (G,Y)
Q819		2SA564A (Q,R), Band Switch
		(U)
		or 2SA608 (E,F)
		or 2SA1015 (G,Y)
Q821		2SC536 (E,F,G), OBC Switch
		or 2SC945A (P,Q,R)
		or 2SC1815 (G,O,Y)

RESISTORS

NOTE; All resistors ±5% and 1/6W unless otherwise noted.

Schematic Location	Part No.	Description
★ R001	RY6WK2R0	2 ohm, ±10%, 6W
R002		150K ohm, 1/2W
★ R003	RR2FJ6R8	6.8 ohm, 2W
★ R004	RYDMJ201	200 ohm, 15W
R006		10K ohm, 1/2W
R007		220K ohm
R008		47 ohm, 1/4W
R101		150 ohm, 1/4W
R106		3300 ohm
R107		390 ohm
R108		27 ohm, 1/2W
R109		1000 ohm
R111		270 ohm
R112		33K ohm
R113		33 ohm
R114		120 ohm
R116		100K ohm
R117		120K ohm
R118		220K ohm
R121		1000 ohm
R122		1000 ohm
R123		1800 ohm
R124		330 ohm
R126		1000 ohm
R127		15K ohm
R128		47K ohm
R129		470 ohm, 1/2W
R131		1000 ohm
R150		470 ohm
R152		12K ohm
R153		2200 ohm
R154		1000 ohm
R155		330 ohm
R156		680 ohm
R157		1800 ohm
R158		120K ohm
R159		100K ohm
R161		100 ohm
R162		10K ohm, 1/4W
R163		12K ohm, 1/4W
★ R164	RN2PJ122	1200 ohm, 2W
R166		10 ohm
R167		10 ohm
R201		820 ohm
R202		1000 ohm
R203		33K ohm
R204		33 ohm, 1/2W
R206		6800 ohm
R207		1000 ohm
R208		1000 ohm
R209		2200 ohm
R211		6800 ohm
R213		1000 ohm
R214		2200 ohm
R216		100K ohm
R217		150K ohm
R222		330 ohm
R223		330 ohm
R224		330 ohm
R232		2700 ohm
R241		82K ohm
R243		18K ohm
R244		47K ohm
R246		18K ohm
R247		1500K ohm, 1/4W
R248		100K ohm
R249		100K ohm
R251		56K ohm
R252		10K ohm
R253		390 ohm
R254		5600 ohm

Schematic Location	Part No.	Description
R256		1500 ohm
R257		27K ohm
R258		39K ohm
R281		180 ohm, 1/4W
R301		47K ohm
R302		4700 ohm
R303		12K ohm
R304		330 ohm
R306		100 ohm
R307		270 ohm
R308		6.8 ohm, 1/2W
R309		2200 ohm
R311		56K ohm
R312		27K ohm
R313		12K ohm
R314		18K ohm
R316		120K ohm
R317		12K ohm
R319		2200 ohm
R321		470 ohm
R322		180K ohm
R323		100K ohm
R324		18K ohm
★R326	RR2FJ103	10K ohm, 2W
R331		5600 ohm, 1/2W
★R332	RR2FJ123	12K ohm, 2W
R333		100 ohm
★R334	RR1FJ102	1000 ohm, 1W
★R336	RR2FJ222	2200 ohm, 2W
★R351	RR1FJ270	27 ohm, 1W
★R352	RN1PJ2R7	2.7 ohm, 1W
R353		1000 ohm
R354		220K ohm
R361		1.2 ohm, 1/2W
R401		100 ohm, 1/2W
R402		100 ohm, 1/2W
R403		27 ohm, 1/4W
R404		47 ohm, 1/4W
R406		22K ohm
R407		15K ohm
R408		330 ohm, 1/4W
R409		270 ohm, 1/4W
R411		330 ohm, 1/2W
R412		75 ohm, 1/4W
R413		470 ohm
R414		390 ohm
R421		470 ohm
R422		390 ohm
R423		33 ohm, 1/2W
R424		33 ohm, 1/2W
R425		330 ohm
R426		15K ohm
R427		22K ohm
R428		150 ohm, 1/2W
R429		680 ohm
R431		1000 ohm, 1/4W

Schematic Location	Part No.	Description
R451		150 ohm, 1/4W
R452		47K ohm
R453		47K ohm
R454		3300 ohm
R461		100 ohm
R462		47K ohm
R463		47K ohm
R464		3300 ohm
R471		150 ohm
R472		3900 ohm
R473		2700 ohm
R474		12 ohm, 1/4W
R477		330 ohm
R478		1000 ohm
R479		150 ohm, 1/4W
R601		220K ohm
R602		220K ohm
R603		10K ohm
★R604	RN2PJ681	680 ohm, 2W
★R605	RN2PJ181	180 ohm, 2W
★R606	RR1FJ152	1500 ohm, 1W
★R607	RR2PJ332	3300 ohm, 2W
★R608	RR2PJ123	12K ohm, 2W
R609		10K ohm
R611		10K ohm
R612		22K ohm
R613		560 ohm
R614		33K ohm
R616		3300 ohm
R617		12K ohm
R618		3300 ohm
R619		5600 ohm
R621		2700 ohm
R622		10K ohm
R623		1200 ohm
R625		560 ohm
R626		4700 ohm
R627		1000 ohm
R628		10K ohm
R629		560 ohm
R631		560 ohm
R632		1000 ohm
R633		1200 ohm
R634		1000 ohm
R636		33K ohm
R637		22K ohm
R638		33K ohm
R639		22K ohm
R641		33K ohm
R642		22K ohm
R643		10K ohm
R644		820 ohm
R646		820 ohm
R647		820 ohm
R648		820 ohm
R654		100 ohm

Schematic Location	Part No.	Description
R656		390 ohm
R657		560 ohm
R658		82 ohm
R661		1200 ohm
R662		6800 ohm
R663		22K ohm
R664		22K ohm
R701		100 ohm
R702		100 ohm
R703		100 ohm
R704		47 ohm
R706		3900 ohm, ±10%, 1/2W
R707		3900 ohm, ±10%, 1/2W
R708		3900 ohm, ±10%, 1/2W
★R709	RR1FJ123	12K ohm, 1W
★R711	RR1FJ123	12K ohm, 1W
★R712	RR1FJ123	12K ohm, 1W
★R713	RR1FJ2R2	2.2 ohm, 1W
R714		270K ohm, ±20%, 1/2W
R717		560 ohm, ±20%, 1/2W
R801		10K ohm
R802		10K ohm
R803		10K ohm
R804		10K ohm
R806		5600 ohm
R807		5600 ohm
R808		5600 ohm
R809		5600 ohm
★R811	RR1FJ153	15K ohm, 1W
R812		470K ohm
R813		100K ohm
R814		1000 ohm
R816		10K ohm
R817		10K ohm
R818		10K ohm
R819		10K ohm
R821		10K ohm
R822		10K ohm
R823		33K ohm
R824		10K ohm
R825		5600 ohm
R826		22K ohm
R827		22K ohm
R828		68K ohm
R829		12K ohm
R831		15K ohm
R832		10K ohm
R833		82K ohm
R841		82 ohm, 1/4W
R1101		68 ohm, ±10%, 1/2W

Schematic Location	Part No.	Description
	COILS	
★L001	LQ0008	Line Filter
	or LQ0008A	Line Filter
L101	LDAK680	Peaking Coil, 68μH
L103	LDAK150	Peaking Coil, 15μH
L151	LDAK151	Peaking Coil,150μH
L201	LDAK8R2	Peaking Coil, 8.2μH
L202	LDAK330	Peaking Coil, 33μH
L204	L7375	Delayline Coil
L301	L7133B	Filter Coil
L304	A7028	Linearity Coil
L306	LDAK4R7	Peaking Coil, 4.7μH
L307	LDAM1R5	Peaking Coil, 1.5μH
L601	LDAM1R5	Peaking Coil, 1.5μH
★L901	LJ0033GHA	Degaussing Coil

CAPACITORS

NOTES

All Capacitors ±5% and 50 volts unless otherwise noted with following;

Tolerance of all Electrolytic Capacitors are +50%–10% unless otherwise noted with symbols.

Tolerance of Capacitors are noted with following symbols;

K . . . . . ±10%
M . . . . . ±20%
N . . . . . ±30%
P . . . . +100%–0%
Z . . . . +80%–20%

Materials of Capacitors are abbreviated as follows:

Elect. . . . . Electrolytic Capacitor
NP. Elect. . . . Non-Polarized Electrolytic Capacitor
Mylar . . . . . Mylar Film Capacitor
Polypro . . . . . Polypropylene Capacitor
Tantal. . . . . Tantalum Capacitor

★C001	CM0003	Polypro., 0.1mfd (M), 125V
	or CNJGM104	
★C002	CCVGM102	Ceramic, 1000pF (M), 1000V
C003		Elect., 470mfd, 180V
		Elect., 470mfd, 180V
C004		Elect., 22mfd, 160V
C006		Elect., 10mfd, 160V
C007		Mylar, 0.1mfd
C101		Elect., 4.7mfd (M), 25V
C102		Elect., 4.7mfd (M), 25V
C103		Mylar, 0.1mfd
C104		Elect., 4.7mfd (M), 25V
C106		Mylar, 0.1mfd
C107		Elect., 1mfd (M)
C108		Elect., 2.2mfd (M)
C109		Elect., 220mfd (M), 16V
C110		Ceramic, 0.01mfd (Z)
C112		Ceramic, 2700pF (K)
C113		Ceramic, 150pF (K), 500V
C114		Ceramic, 0.01mfd (Z)
C115		Ceramic, 0.01mfd (Z)
C116		Ceramic, 0.01mfd (Z)
C117		Ceramic, 68pF

Schematic Location	Part No.	Description
C118		Ceramic, 0.01mfd (Z)
C121		Ceramic, 6pF ±0.5pF
C123		Ceramic, 56pF
C124		Ceramic, 0.01mfd (Z)
C126		Ceramic, 33pF
C127		Ceramic, 56pF
C129		Ceramic, 0.01mfd (Z)
C131		Elect., 4.7mfd (M), 25V
C135		Ceramic, 0.01mfd (Z)
C150		Ceramic, 22pF
C151		Ceramic, 0.01mfd (Z)
C152		Elect., 100mfd (M), 16V
C153		Elect., 1mfd (M)
C154		Elect., 4.7mfd (M), 25V
C155		Ceramic, 0.01mfd (Z)
C156		Ceramic, 0.01mfd (Z)
C157		Ceramic, 68pF
C158		Ceramic, 4700pF (K)
C159		Ceramic, 18pF
C161		Mylar, 2700pF (K)
C162		Elect., 1mfd, 160V
C163		Elect., 10mfd, 160V
C201		Ceramic, 56pF
C202		Ceramic, 150pF
C203		Mylar, 0.1mfd
C204		Elect., 2.2mfd (M)
C206		Elect., 4.7mfd (M), 25V
C207		Elect., 220mfd (M), 16V
C208		Ceramic, 0.01mfd (Z)
C209		Ceramic, 0.01mfd (Z)
C210		Ceramic, 68pF
C211		Ceramic, 15pF
C212		NP. Elect., 4.7mfd (N), 25V
C213		Ceramic, 27pF
C216		Mylar, 0.033mfd (K)
C221		Ceramic, 390pF (K)
C222		Ceramic, 390pF (K)
C223		Ceramic, 390pF (K)
C226		Ceramic, 3300pF (K)
C227		Elect., 10mfd (M), 16V
C228		Elect., 1mfd (M)
C229		Elect., 22mfd (M), 16V
C231		Elect., 10mfd (M), 16V
C232		Ceramic, 0.01mfd (Z)
C233		Elect., 4.7mfd (M)
C234		Elect., 10mfd (M), 16V
C236		Ceramic, 82pF
C237		Ceramic, 10pF
C301		Elect., 1mfd (M)
C302		Mylar, 0.01mfd (K)
C303		Mylar, 5600pF
C304		Mylar, 1200pF
C306		Tantal, 2.2mfd (K), 16V

Schematic Location	Part No.	Description
C307		Elect., 470mfd (M), 35V
C308		Mylar, 3900pF (K)
C309		Mylar, 0.039mfd
C311		Elect., 0.47mfd (M)
C312		Elect., 220mfd (M), 16V
C313		Tantal, 1mfd (K), 25V
C314		Mylar, 0.068mfd (K)
C316		Mylar, 0.01mfd (K)
C317		Ceramic, 270pF (K)
C318		Ceramic, 1000pF (K)
C319		Elect., 1mfd (M)
C321		Mylar, 0.068mfd (K)
C322		Mylar, 0.027mfd (K)
C323		Mylar, 0.022mfd (K)
C326		Elect., 33mfd (M), 16V
C331		Ceramic, 680pF (K), 500V
C332		Ceramic, 1000pF (K), 500V
C333		Polypro., 0.047mfd, 200V
★C334	CCZVK102 or CCZWK102	Ceramic, 1000pF (K), 2000V
★C336	CNZDJ152	Polypro., 1500pF, 2000V
★C337	CNZDJ182	Polypro., 1800pF, 2000V
★C338	CNLRJ124	Polypro., 0.12mfd, 200V
★C339	CNLRJ184	Polypro., 0.18mfd, 200V
C341		Elect., 2.2mfd, 160V
C342		Elect., 10mfd (M)
C343		Ceramic, 120pF (K), 500V
C344		Polypro., 0.039mfd (K), 200V
C346		Elect., 1mfd (M)
C351		Elect., 33mfd, 160V
C352		Ceramic, 1000pF (K), 500V
C353		Elect., 100mfd (M)
C354		Elect., 470mfd (M), 25V
C356		NP. Elect., 0.47mfd (N), 160V
C357		Elect., 22mfd (M)
C361		Ceramic, 1000pF (P), 500V
C401		Elect., 470mfd (M), 25V
C402		Elect., 1000mfd (M), 16V
C403		Elect., 47mfd (M), 16V
C404		Elect., 2200mfd, 10V
C405		Ceramic, 2200pF (Z), 125V
C406		Elect., 1000mfd, 16V
C407		NP. Elect., 0.47mfd (N), 25V
C408		Elect., 1mfd (M)
C409		NP. Elect., 4.7mfd (N), 25V
C411		Elect., 10mfd (M), 16V
C412		Elect., 10mfd (M), 16V
C421		Elect., 10mfd (M), 16V
C422		Elect., 10mfd (M), 16V
C423		NP. Elect., 4.7mfd (N), 25V
C424		Elect., 1mfd (M)
C426		NP. Elect., 0.47mfd (N), 25V
C427		Elect., 1000mfd (M), 16V

Schematic Location	Part No.	Description
C429		Elect., 2200mfd, 10V
C431		Elect., 47mfd (M), 16V
C432		Elect., 220mfd (M), 16V
C451		Elect., 10mfd (M), 16V
C452		Elect., 100mfd (M), 16V
C461		Elect., 10mfd (M), 16V
C462		Elect., 100mfd (M), 16V
C463		Elect., 10mfd (M), 16V
C464		Elect., 10mfd (M), 16V
C466		Elect., 10mfd (M), 16V
C467		Elect., 470mfd (M), 16V
C468		Elect., 47mfd (M), 16V
C469		Elect., 47mfd (M), 16V
C601		Ceramic, 1000pF (M), 1000V
C602		Elect., 22mfd, 180V
C603		Elect., 22mfd, 180V
C606		Elect., 1mfd (M)
C607		Elect., 1mfd (M)
C609		Elect., 22mfd (M), 16V
C612		Elect., 33mfd (M), 16V
C613		Ceramic, 82pF
C614		Ceramic, 82pF
C616		Ceramic, 0.01mfd (Z)
C617		Elect., 1000mfd (M), 16V
C618		Ceramic, 0.01mfd (Z)
C701		Ceramic, 1000pF (K)
C702		Ceramic, 1000pF (K)
C703		Ceramic, 1000pF (K)
C704		Ceramic, 1000pF (P), 2000V
C801		Ceramic, 0.01mfd (Z)
C802		Elect., 47mfd (M), 16V
C811		Ceramic, 0.01mfd (Z)

VARIABLE RESISTORS

VR101	G0096	RF AGC,	5K ohm
VR151	G0098	Sound Level,	10K ohm
VR201	G0122	Sub Color,	100K ohm
VR202	G0122	Sub Tint,	100K ohm
VR203	G0122	APC,	100K ohm
VR204	G0284XDT	Bright Level,	20K ohm
VR206	G0084	Contrast Level,	3K ohm
VR301	G0223XDT	Horiz. Osc.,	5K ohm
VR302	G0284XDT	Vert. Size,	20K ohm
VR401	G0084	Video Out Level Adj.,	3K ohm
VR421	G0084	Video Gain Adj.,	3K ohm
VR601	GF0107DT	Sound Control,	10K ohm
VR701	G1113XXB or G1113XXH	Blue Drive,	100 ohm
VR702	G1127XXB or G1127XXH or G1127XXM	Blue Bias,	20K ohm
VR703	G1127XXB or G1127XXH or G1127XXM	Green Bias,	20K ohm
VR704	G1113XXB or G1113XXH	Red Drive,	100 ohm
VR705	G1127XXB or G1127XXH or G1127XXM	Red Bias,	20K ohm
VR801	GR0078XA	Channel Band Select and Fine Tuning	
★ VR802	G5006XXH or G5006XXM	Color,	10K ohm
★ VR803	G5006XXH or G5006XXM	Tint,	10K ohm
★ VR804	G5006XXH or G5006XXM	Brightness,	10K ohm
★ VR806	G5006XXH or G5006XXM	Contrast,	10K ohm
★ VR807	G5005XXH or G5005XXM	Vert. Hold,	20K ohm

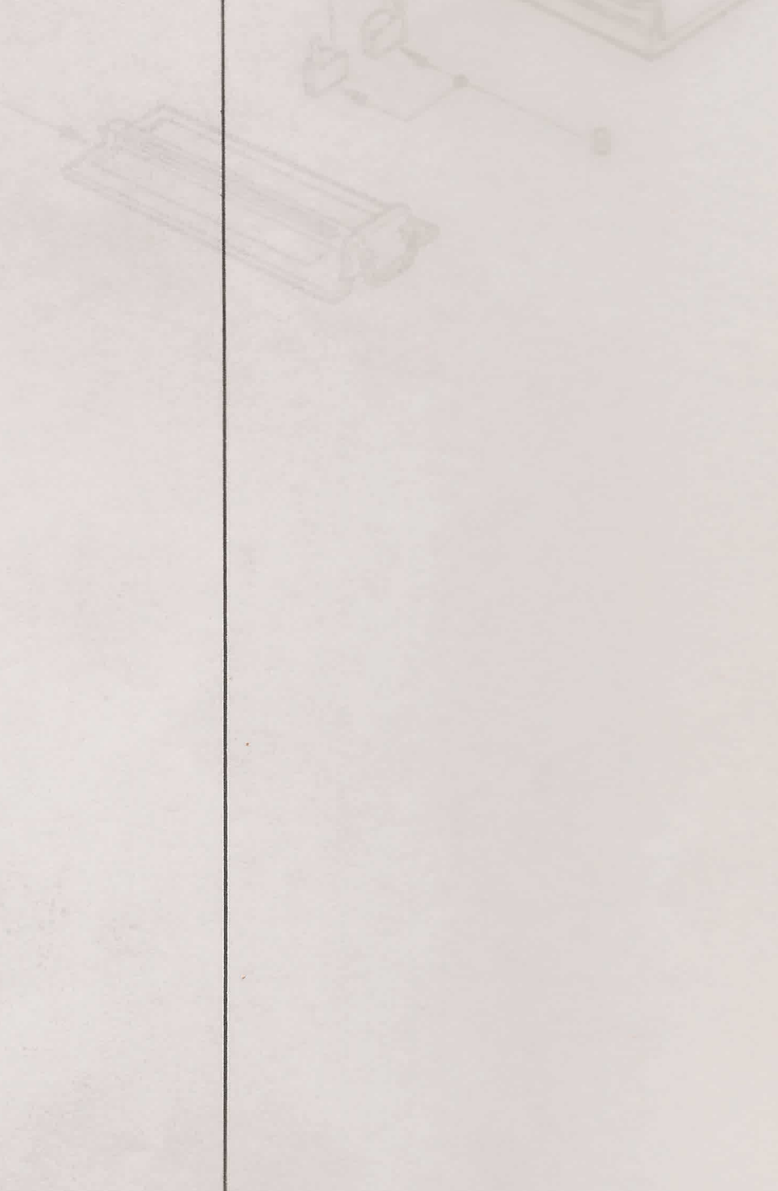
DIODES

D001		ERC04-06
D101		EQB01-12, Zener (12V)
D102 D206 D207 D208 D301 D303 D304 D603 D606 D607 D609 D611 D612 D801 Thru D824 D832 D833 D836 Thru D839		1S1555 or 1S2473 or 1S2076 or DS442
D201		EQB01-12M, Zener (12V)
D203		1S188TV
D302		S5277B
D306		EU2
D307		EU-1

Schematic Location	Part No.	Description
D308		EU-1
D309		EQA02-12M1, Zener (12V)
D311		ES-1
D601		ERC04-06
D602		S5277D
D604		EQA02-08A, Zener (8V)
D608		EQB01-09B, Zener (9V)
D831		L5630, Zener (33V)
		or μPC574J, Zener (33V)
D844		EQA02-12M1, Zener (12V)
D1201 Thru D1212	EL0009	SLP-138C-50, Channel Indicator Light
D1401	EL0007	SLP-251B-50, Timer Indicator Light
D1402	EL0006	SLP-151B-50, Power Indicator Light
TRANSFORMERS		
T101	S8162	PIF
T103	S8582	Sound Trap
T104	S8923	AFT
T105	S8141	PIF Detect.
★ T152	V230	Sound Output
T301	A5034	Horiz. Drive
★ T302	F1180	Horiz. Output
T401	V233	Video Input
T402	V233	Video Output
T403	V238	Audio Input
T404	V238	Audio Output
SWITCHES		
SW201	E2315	Service Switch
SW401	ES0043	TV-Monitor Select
SW801	E2872	AFT SW
SW802	ES0020	Auto Color
SW1001	ES0041	Power
SW1401 Thru SW1404	E2865	Volume Down, Volume Up, Channel Down and Channel Up
MISCELLANEOUS		
X101	E8343A	SAW Filter (PIF)
X102	E8326	Ceramic Filter
	or E8331	
X151	E8322	Ceramic Filter
X152	E8500	Ceramic Filter
X201	E8473A	Crystal Oscillator
	or E8473C	

Schematic Location	Part No.	Description
X601	EX0003XO	Ceramic Oscillator
★ F001	E5093	Fuse, AC4A-125V
★ F002	E5115	Fuse, DC 0.63A-250V
	E5740	Fuse Clip (AC, DC Fuse)
A201	JU0023	Video Amp. Module
A301	JU0018	Vert. Output Module
A401	JU0030	Video Amp. Module (Video Out)
A421	JU0030	Video Amp. Module (Video In)
RL601	EF0003A	Power OFF-ON Relay
★ VDR001	E1504VA	Varistor, TNR15G271K-A
	or E1536V	Varistor, ENB251D-14A
★ B481	X0015C	Capristor
	EK0080Y	Video IN/OUT Jack
	EK0080W	Audio IN/OUT Jack
TH201	E1046T	Thermister, SDT-1000
★ POS001	E1577P	Posistor, ERP-F5B0M080H
	E3324	Socket, Picture Tube
	E7791	Earphone Jack
★	E6102KA	AC Power Supply Cord
	or E6125KA	
★	J1904C	Picture Tube Grounding Lead
	E3294K	Coaxial Cable with 1P Plug (Main Board to Tuner Board)
★	JA0021	UHF/VHF Antenna Terminal Board
★	T2535AB	UHF/VHF Combined Tuner
	V1596	Speaker
	3102176	Degaussing Coil Holder (4 used)
	UB0091	Main Signal Circuit Board with all Components
	UB0094B	Channel Selection Board with all Components
	UB0092	Picture Tube Socket Board with all Components
	UB0138	A/V IN/OUT Board with all Components
	UB0139	A/V IN/OUT Terminal Board with all Components
	UB0097	Power Switch Board with all Components
	UB0117	Earphone Jack Board with all Components
	UB0095	LED Board with all Components
	UB0096	Key Switch Board with all Components
	UB0140	Tuner Board with 1P Jack
	UG0023	Remote Control Pre-Amplifier

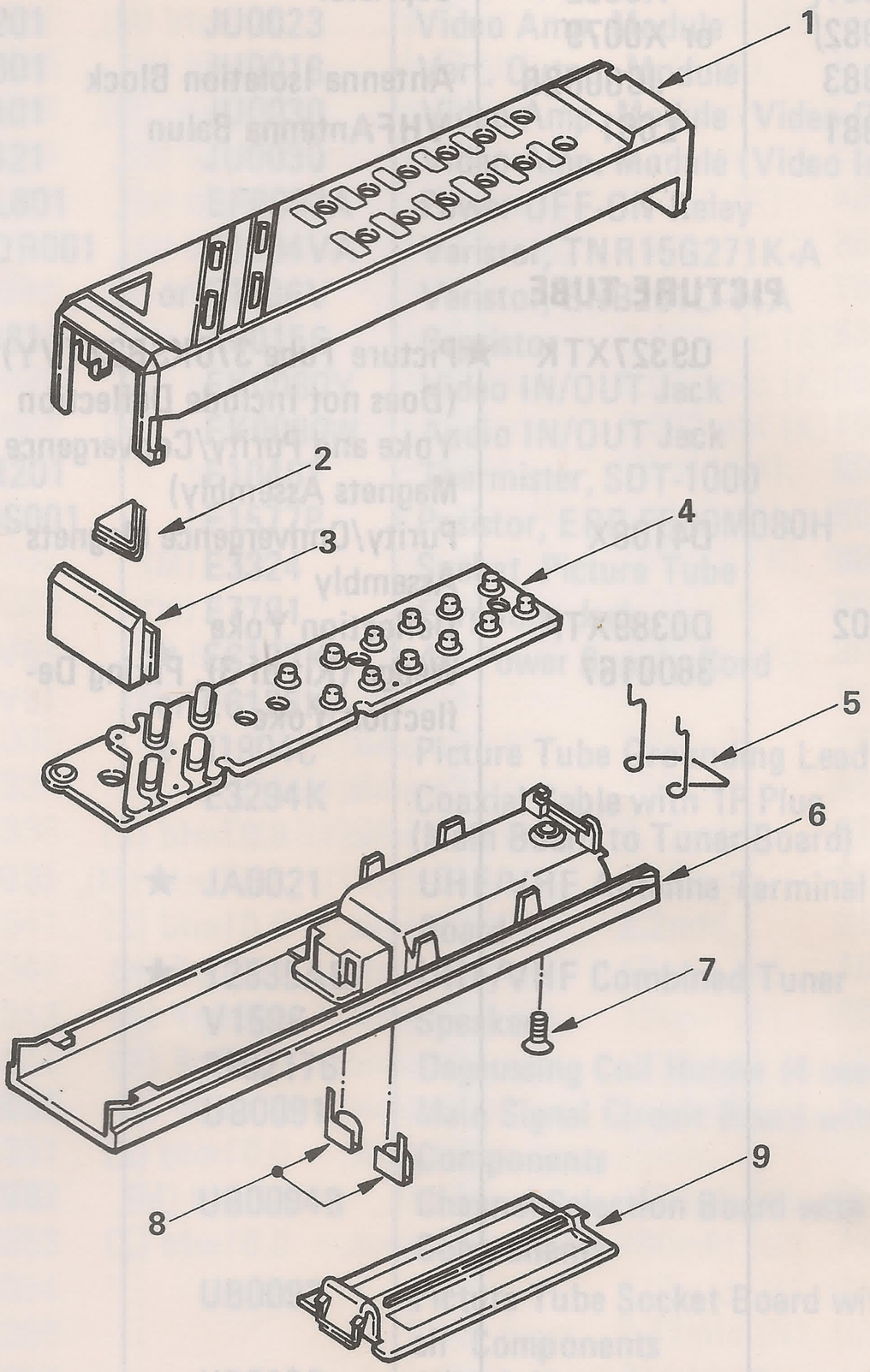
Schematic Location	Part No.	Description
UHF/VHF ANTENNA TERMINAL BOARD PARTS		
C981	CCHAC4R0 or CCHAC4R0S	Ceramic, 4pF ±0.25pF
★ B981, ★ B982	X0052 or X0079	Capristor
★ B983	JC0002B	Antenna Isolation Block
L981	L661	VHFAntenna Balun
PICTURE TUBE		
	Q9327XTK	★Picture Tube 370KSB22 (VY) (Does not Include Deflection Yoke and Purity/Convergence Magnets Assembly)
	D4108X	Purity/Convergence Magnets Assembly
★ L902	D0389XTA	Deflection Yoke
	3600167	Wedge (Kit of 3), Fixing Deflection Yoke



REMOTE CONTROL TRANSMITTER PARTS LIST

CABINET PARTS LIST

Key No.	Part No.	Description
1	3M00925	Cabinet Top Assembly
2	3M00356D	Knob, Power
3	3M00055	Cabinet Front
4	ZZ0009	Contact Rubber Sheet
5	1650187	Battery Contact
6	3M00053A	Cabinet Bottom
7	NUS3008E	Screw, 3 x 8mm
8	2P00257	Battery Contact
	2P00258	Battery Contact
9	3M00054A	Cover Battey Pocket



ELECTRICAL PART LIST

Schematic Location	Part No.	Description
	INTEGRATED CIRCUIT	
IC701		μPD1913C, Pulse Generator
	TRANSISTORS	
Q701		2SC536SP (F,G), LED Drive-1
		or 2SC2785 (E,F,H)
Q702		2SD545 (F,G), LED Drive-2
	RESISTORS	
R701		220 ohm
R702		39 ohm
R703		180 ohm
R704		1.5 ohm, 1/4W
R705		1.5 ohm, 1/4W
R706 Thru R709		39K ohm
	CAPACITORS	
C701		Elect., 100mfd (M), 6.3V
C702		Ceramic, 100pF (K)
C703		Ceramic, 100pF (K)
	DIODES	
D701 D702	E1454L	LD271 (Infrared Emitting)
	or E1586L	or SLR-933A (Infrared Emitting)
D703 D704		1S1555
		or 1S2473
		or 1S2076
	MISCELLANEOUS	
X701	EX0009XO	Ceramic Oscillator (455KHz)
	EB0065	Remote Control Transmitter Board
	UG0024	Remote Control Transmitter Circuit Board with all Components

A2KCS